





Final Environmental Impact Statement (EIS) for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord Concord, California

August 2017 • Volume 1 of 2



NAVFAC
Naval Facilities Engineering Command

Prepared by:

Department of the Navy
Naval Facilities Engineering Command Headquarters,
Base Realignment and Closure
Program Management Office West
33000 Nixie Way
Building 50
San Diego, CA 92147

Cooperating Agency:

U.S. Army Corps of Engineers

Final Environmental Impact Statement (Final EIS)

for the

Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord Concord, California

August 2017

Prepared by:

Department of the Navy
Naval Facilities Engineering Command Headquarters
Base Realignment and Closure Program Management Office West
33000 Nixie Way
Building 50
San Diego, CA 92147

Cooperating Agency
U.S. Army Corps of Engineers

This page intentionally left blank.

Lead Agency:
United States Department of the Navy

In accordance with Chief of Naval Operations Instructions 5090.1D

FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE
DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION SEAL BEACH,
DETACHMENT CONCORD
CONCORD, CALIFORNIA
August 2017

Abstract

This Environmental Impact Statement (EIS) evaluates the U.S. Department of the Navy's (Navy's) proposal to dispose of surplus property at the former Naval Weapons Station Seal Beach, Detachment Concord (NWS Concord), in the City of Concord, Contra Costa County, California, and the subsequent redevelopment of the property by the local community. In March 2007, the Navy declared approximately 5,028 acres of property (subsequently revised to 4,972 acres of property) at the former NWS Concord to be surplus to the needs of the federal government, in accordance with Public Law 101-510, the Defense Base Closure and Realignment Act of 1990, as amended in 2005. The City of Concord is the Local Redevelopment Authority (LRA) for redevelopment of the former NWS Concord. The EIS examines the potential human and natural environmental consequences of the proposed action.

Two redevelopment alternatives and a No Action Alternative are considered in this EIS. Alternative 1 (Preferred Alternative) is the disposal of the surplus property and reuse in accordance with the *Concord Reuse Project Area Plan* (Area Plan), as adopted by the City of Concord. The Area Plan encompasses an area of 5,046 acres, and includes approximately 74 acres of non-Navy property. Alternative 2 (Intensified Reuse) represents a higher intensity of use overall for the 5,046 acres. Both alternatives focus on the preservation of a significant area of open space and conservation areas, and sustainable development characterized by walkable, village neighborhoods; transit-oriented development; and "complete streets" that balance multiple types of transportation. The No Action Alternative is the retention of the surplus property at the former NWS Concord by the U.S. government in caretaker status. The Navy is the lead agency for the proposed action, with the U.S. Army Corps of Engineers serving as a cooperating agency for the preparation of this EIS.

Please contact the following person with comments and questions:

Department of the Navy
Director, BRAC Program Management Office West
Attn: Concord EIS
33000 Nixie Way
Building 50
San Diego, CA 92147

This page intentionally left blank.

Table of Contents

Chapter **Page**

Executive Summary ES-1
ES.1 Description of the Proposed Action ES-1
ES.2 Background ES-1
ES.3 Scope of the EIS ES-2
ES.4 Alternatives Considered in the EIS ES-3
ES.4.1 Alternative 1 (Preferred Alternative) ES-3
ES.4.2 Alternative 2 (Intensified Reuse) ES-8
ES.4.3 No Action Alternative ES-9
ES.4.4 Comparison of Alternatives ES-9
ES.5 Summary of Potential Environmental Consequences ES-9

1 Purpose and Need 1-1
1.1 Introduction 1-1
1.2 The NEPA Process 1-2
1.3 Purpose and Need for Action 1-2
1.4 Project Area Description 1-3
1.5 History of Former NWS Concord 1-4
1.6 Community Reuse Planning Process 1-7
1.7 Scope of the EIS 1-8
1.8 Agency Coordination 1-9
1.9 Public Involvement under NEPA 1-9
1.9.1 Public Notification and Scoping 1-9
1.9.1.1 Scoping Meetings 1-10
1.9.1.2 Summary of Scoping Comments 1-10
1.9.2 Public Notification and Comment Period for the Draft EIS 1-11
1.9.2.1 Draft EIS Public Meeting 1-11
1.9.2.2 Draft EIS Comments 1-12
1.9.3 Final EIS and Record of Decision 1-12
1.10 Changes from the Draft EIS to the Final EIS 1-13
1.10.1 Changes Based on Public Comments 1-13
1.10.2 Status of Consultation Processes 1-14
1.10.3 Corrections, Clarifications, and Additions to the Proposed Action Description 1-15
1.10.4 Updated Data on Existing Environmental Resources and Public Involvement 1-16
1.10.5 New Appendices 1-17
1.11 Document Organization 1-17

2 Proposed Action and Alternatives 2-1
2.1 Components of the Proposed Action 2-1
2.2 Alternatives 2-2
2.2.1 Key Planning Concepts 2-7
2.2.2 Area-wide Components of Reuse 2-8

2.2.3 Alternative 1 (Preferred Alternative) 2-9
2.2.3.1 Development and Other Districts 2-9
2.2.3.2 Community Facilities 2-13
2.2.3.3 Transportation 2-13
2.2.3.4 Property Conveyances 2-14
2.2.4 Alternative 2 (Intensified Reuse) 2-15
2.2.5 No Action Alternative 2-17
2.2.6 Alternatives Considered and Eliminated 2-18
2.3 Subsequent Local Planning Efforts 2-21
2.4 Comparison of Environmental Consequences 2-22

3 Affected Environment 3-1
3.1 Introduction 3-1
3.2 Land Use and Zoning 3-1
3.2.1 On-site Land Use 3-1
3.2.2 Regional Land Use 3-5
3.2.3 Adjacent Land Use 3-6
3.2.4 Regulatory Framework 3-9
3.2.4.1 Regional 3-9
3.2.4.2 Local 3-15
3.3 Socioeconomics and Environmental Justice 3-21
3.3.1 Regulatory Framework 3-22
3.3.1.1 Executive Order 12898 3-22
3.3.1.2 Executive Order 13045 3-23
3.3.2 Economy, Employment, and Income 3-23
3.3.3 Population 3-26
3.3.4 Housing and Commercial Property 3-27
3.3.5 Taxes and Revenue 3-28
3.3.6 Environmental Justice and Protection of Children 3-30
3.4 Air Quality and Greenhouse Gases 3-31
3.4.1 Climate, Topography, and Air Pollution Potential 3-32
3.4.2 Air Pollutants 3-32
3.4.2.1 Criteria Air Pollutants 3-32
3.4.2.2 Hazardous Air Pollutants/Toxic Air Contaminants 3-34
3.4.2.3 Nuisance Odors 3-35
3.4.3 Greenhouse Gases 3-35
3.4.4 Existing Air Emission Sources 3-37
3.4.5 Greenhouse Gas Emission Sources 3-38
3.4.6 Existing Air Quality 3-38
3.4.7 Regulatory Framework: Air Quality 3-41
3.4.7.1 Federal 3-41
3.4.7.2 State 3-42
3.4.7.3 Local 3-42
3.4.8 Regulatory Framework: GHGs 3-43
3.4.8.1 International 3-43
3.4.8.2 Federal 3-44
3.4.8.3 State 3-44
3.4.8.4 Local 3-45
3.5 Biological Resources 3-45
3.5.1 Regulatory Framework 3-46

3.5.1.1 Federal 3-46
3.5.1.2 State 3-47
3.5.1.3 Regional and Local 3-48
3.5.2 Background/Methodology 3-49
3.5.3 Vegetation Communities and Habitats 3-51
3.5.4 Fish and Wildlife 3-55
3.5.5 Special Status Species 3-56
3.5.5.1 Special Status Plant Species 3-56
3.5.5.2 Special Status Wildlife Species 3-57
3.6 Cultural Resources 3-62
3.6.1 Regulatory Framework 3-62
3.6.1.1 Section 106 of the National Historic Preservation Act of 1966 3-62
3.6.1.2 Archaeological Resources Protection Act 3-64
3.6.2 Cultural Setting 3-64
3.6.2.1 Prehistoric Context 3-64
3.6.2.2 Ethnographic Context 3-65
3.6.2.3 Historic Context 3-66
3.6.3 Existing Cultural Resources on the Former NWS Concord 3-68
3.6.3.1 Archaeological Resources 3-68
3.6.3.2 Architectural Resources 3-72
3.6.4 Historic Properties on the Former NWS Concord 3-73
3.7 Topography, Geology, and Soils 3-88
3.7.1 Regulatory Framework 3-88
3.7.1.1 Federal 3-88
3.7.1.2 State 3-89
3.7.2 Topography and Geology 3-89
3.7.2.1 Topography 3-89
3.7.2.2 Geology 3-90
3.7.2.3 Geologic Hazards 3-90
3.7.3 Soils 3-95
3.7.3.1 Soil Types 3-95
3.7.3.2 Soil Characteristics and Limitations 3-97
3.7.3.3 Prime Farmland 3-97
3.7.3.4 Hydric Soils 3-100
3.7.3.5 Constructability 3-100
3.8 Hazards and Hazardous Substances 3-100
3.8.1 Background 3-103
3.8.2 Environmental Restoration and Regulatory Overview 3-103
3.8.2.1 Environmental Restoration 3-104
3.8.2.2 Environmental Compliance 3-107
3.8.2.3 Finding of Suitability to Transfer 3-109
3.8.3 Environmental Restoration Program Sites 3-109
3.8.3.1 Installation Restoration Program Sites 3-110
3.8.3.2 Military Munitions Response Program Sites 3-126
3.8.3.3 Other Sites and Investigations 3-129
3.8.4 Solid Waste Management Unit Sites 3-132
3.8.5 Basewide Historical Radiological Assessment 3-132
3.8.6 Other Hazardous Waste/Materials Management 3-134
3.8.6.1 Hazardous Waste 3-134
3.8.6.2 Underground Storage Tanks 3-134

3.8.6.3 Aboveground Storage Tanks 3-134
3.8.6.4 Asbestos 3-141
3.8.6.5 Lead-Based Paint 3-141
3.8.6.6 Polychlorinated Biphenyls 3-141
3.8.6.7 Radioactive Materials 3-143
3.8.7 Other Nearby Hazardous Waste/Material Sites 3-143
3.9 Noise 3-144
3.9.1 Noise Fundamentals 3-144
3.9.2 Regulatory Framework 3-144
3.9.3 Ambient Noise Measurements 3-147
3.10 Public Services 3-149
3.10.1 Regulatory Framework 3-149
3.10.1.1 Federal and State 3-149
3.10.1.2 Regional and Local 3-149
3.10.2 Educational Facilities 3-150
3.10.3 Public Safety, Emergency, and Health Care Facilities 3-150
3.10.3.1 Police 3-150
3.10.3.2 Fire and Emergency Medical Services (EMS) 3-151
3.10.3.3 Health Care 3-152
3.10.4 Open Space, Parks, and Recreation 3-152
3.11 Transportation, Traffic, and Circulation 3-155
3.11.1 Plans and Policies 3-155
3.11.2 Roadway Network 3-160
3.11.3 Existing Traffic Volumes 3-167
3.11.4 Existing Traffic Operations 3-171
3.11.5 Public Transportation 3-174
3.11.6 Pedestrian and Bicycle Facilities 3-183
3.12 Utilities and Infrastructure 3-184
3.12.1 Regulatory Framework 3-184
3.12.1.1 Federal and State 3-184
3.12.1.2 Local Regulations 3-190
3.12.2 Water Systems 3-192
3.12.2.1 City of Concord 3-192
3.12.2.2 Former NWS Concord 3-194
3.12.3 Stormwater Collection Systems 3-194
3.12.3.1 City of Concord 3-194
3.12.3.2 Former NWS Concord 3-194
3.12.4 Sanitary Sewage Collection and Treatment Systems 3-194
3.12.4.1 City of Concord 3-194
3.12.4.2 Former NWS Concord 3-196
3.12.5 Other Utilities and Infrastructure 3-196
3.12.5.1 City of Concord 3-196
3.12.5.2 Former NWS Concord 3-197
3.13 Visual Resources and Aesthetics 3-197
3.13.1 Landscape Analysis 3-198
3.13.2 Local Plans and Policies 3-205
3.13.3 Scenic Quality Field Survey 3-212
3.13.3.1 KOP 1 – Salvio Street and Mt. Diablo Street 3-212
3.13.3.2 KOP 2 – Concord High School 3-213
3.13.3.3 KOP 3 – State Route 4 3-214
3.13.3.4 KOP 4 – Bailey Road 3-215

3.13.3.5 KOP 5 – Panoramic Drive 3-216
3.13.3.6 KOP 6 – Beechwood Drive 3-217
3.14 Water Resources 3-218
3.14.1 Regulatory Framework 3-218
3.14.1.1 Surface Water and Water Quality 3-218
3.14.1.2 Wetlands 3-221
3.14.1.3 Groundwater 3-222
3.14.1.4 Floodplains 3-222
3.14.2 Surface Water 3-223
3.14.2.1 Ponds 3-224
3.14.2.2 Canals 3-224
3.14.3 Wetlands 3-224
3.14.4 Groundwater 3-227
3.14.5 Water Quality 3-228
3.14.5.1 Surface Water Quality 3-228
3.14.5.2 Groundwater Quality 3-229
3.14.6 Floodplains 3-230

4 Environmental Consequences 4-1
4.1 Introduction 4-1
4.2 Land Use and Zoning 4-3
4.2.1 Alternative 1 4-3
4.2.1.1 Onsite Land Use 4-3
4.2.1.2 Regional Land Use 4-5
4.2.1.3 Adjacent Land Use 4-6
4.2.1.4 Consistency with Land Use Plans and Zoning 4-7
4.2.1.5 Summary 4-10
4.2.2 Alternative 2 4-11
4.2.2.1 Onsite Land Use 4-11
4.2.2.2 Regional Land Use 4-12
4.2.2.3 Adjacent Land Use 4-12
4.2.2.4 Consistency with Land Use Plans and Zoning 4-13
4.2.2.5 Summary 4-14
4.2.3 No Action Alternative 4-14
4.3 Socioeconomics and Environmental Justice 4-14
4.3.1 Alternative 1 4-14
4.3.1.1 Economy, Employment, and Income 4-14
4.3.1.2 Population 4-20
4.3.1.3 Housing and Commercial Property 4-21
4.3.1.4 Taxes and Revenues 4-24
4.3.1.5 Environmental Justice and Protection of Children 4-25
4.3.2 Alternative 2 4-27
4.3.2.1 Economy, Employment, and Income 4-27
4.3.2.2 Population 4-27
4.3.2.3 Housing and Commercial Property 4-28
4.3.2.4 Taxes and Revenues 4-28
4.3.2.5 Environmental Justice and Protection of Children 4-29
4.3.3 No Action Alternative 4-29
4.4 Air Quality 4-29
4.4.1 Alternative 1 4-31

4.4.1.1 Planning Thresholds 4-31
4.4.1.2 Criteria Air Pollutants 4-33
4.4.1.3 Hazardous Air Pollutants: Protection of Sensitive Receptors 4-36
4.4.1.4 Nuisance Odors 4-39
4.4.1.5 Greenhouse Gases 4-39
4.4.2 Alternative 2 4-40
4.4.2.1 Planning Thresholds 4-40
4.4.2.2 Criteria Air Pollutants 4-41
4.4.2.3 Hazardous Air Pollutants: Protection of Sensitive Receptors 4-44
4.4.2.4 Nuisance Odors 4-44
4.4.2.5 Greenhouse Gases 4-47
4.4.3 No Action Alternative 4-47
4.4.4 Climate Change 4-47
4.5 Biological Resources 4-49
4.5.1 Alternative 1 4-50
4.5.1.1 Vegetation Communities and Habitats 4-50
4.5.1.2 Fish and Wildlife 4-56
4.5.1.3 Special Status Species 4-59
4.5.2 Alternative 2 4-66
4.5.2.1 Vegetation Communities and Habitats 4-69
4.5.2.2 Fish and Wildlife 4-70
4.5.2.3 Special Status Species 4-71
4.5.3 No Action Alternative 4-74
4.5.3.1 Vegetation Communities and Habitats 4-74
4.5.3.2 Fish and Wildlife 4-74
4.5.3.3 Special Status Species 4-75
4.6 Cultural Resources 4-75
4.6.1 Alternative 1 4-75
4.6.2 Alternative 2 4-78
4.6.3 No Action Alternative 4-78
4.7 Topography, Geology, and Soils 4-78
4.7.1 Alternative 1 4-78
4.7.1.1 Topography 4-78
4.7.1.2 Geology 4-79
4.7.1.3 Soils 4-80
4.7.2 Alternative 2 4-81
4.7.2.1 Topography 4-81
4.7.2.2 Geology 4-81
4.7.2.3 Soils 4-82
4.7.3 No Action Alternative 4-82
4.8 Hazards and Hazardous Substances 4-82
4.8.1 Methodology 4-82
4.8.1.1 ER Program Sites and other Regulatory Sites 4-82
4.8.1.2 Other Hazardous Waste/Materials Management 4-84
4.8.1.3 Finding of Suitability to Transfer 4-84
4.8.2 Alternative 1 4-85
4.8.2.1 Program Sites 4-85
4.8.2.2 Solid Waste Management Unit Sites 4-97
4.8.2.3 Radiological Sites 4-97

4.8.2.4 Other Hazardous Waste/Materials Management..... 4-101
4.8.3 Alternative 2..... 4-104
4.8.3.1 Program Sites..... 4-104
4.8.3.2 Solid Waste Management Unit Sites..... 4-107
4.8.3.3 Radiological Sites..... 4-107
4.8.3.4 Other Hazardous Waste/Materials Management..... 4-108
4.8.4 No Action Alternative..... 4-108
4.9 Noise..... 4-108
4.9.1 Alternative 1..... 4-108
4.9.1.1 Construction..... 4-108
4.9.1.2 Operation..... 4-112
4.9.2 Alternative 2..... 4-119
4.9.3 No Action Alternative..... 4-119
4.10 Public Services..... 4-120
4.10.1 Alternative 1..... 4-120
4.10.1.1 Educational Facilities..... 4-120
4.10.1.2 Public Safety, Emergency, and Health Care Facilities. 4-122
4.10.1.3 Open Space, Parks and Recreation..... 4-125
4.10.2 Alternative 2..... 4-126
4.10.2.1 Educational Facilities..... 4-126
4.10.2.2 Public Safety, Emergency, and Health Care Facilities. 4-126
4.10.2.3 Open Space, Parks, and Recreation..... 4-127
4.10.3 No Action Alternative..... 4-128
4.11 Transportation, Traffic, and Circulation..... 4-128
4.11.1 Methodology..... 4-128
4.11.2 Alternative 1..... 4-142
4.11.3 Alternative 2..... 4-146
4.11.4 No Action Alternative..... 4-156
4.12 Utilities and Infrastructure..... 4-156
4.12.1 Alternative 1..... 4-156
4.12.1.1 Water..... 4-156
4.12.1.2 Stormwater and Collection Systems..... 4-159
4.12.1.3 Sanitary Collection and Treatment Systems..... 4-161
4.12.1.4 Other Utilities and Infrastructure..... 4-162
4.12.2 Alternative 2..... 4-168
4.12.2.1 Water..... 4-168
4.12.2.2 Stormwater and Collection Systems..... 4-168
4.12.2.3 Sanitary Collection and Treatment Systems..... 4-169
4.12.2.4 Other Utilities and Infrastructure..... 4-169
4.12.3 No Action Alternative..... 4-171
4.13 Visual Resources and Aesthetics..... 4-171
4.13.1 Methodology..... 4-172
4.13.2 Alternative 1..... 4-173
4.13.2.1 Impacts on Scenic Quality of KOPs..... 4-173
4.13.2.2 Impacts on Views of the Los Medanos Hills, Mount Diablo, and Open Space..... 4-176
4.13.3 Alternative 2..... 4-177
4.13.4 No Action Alternative..... 4-177
4.14 Water Resources..... 4-177
4.14.1 Alternative 1..... 4-177
4.14.1.1 Surface Water..... 4-177

4.14.1.2 Wetlands 4-185
4.14.1.3 Groundwater 4-187
4.14.1.4 Water Quality 4-188
4.14.1.5 Floodplains 4-190
4.14.2 Alternative 2 4-191
4.14.2.1 Surface Water 4-191
4.14.2.2 Wetlands 4-192
4.14.2.3 Groundwater 4-193
4.14.2.4 Water Quality 4-194
4.14.2.5 Floodplains 4-194
4.14.3 No Action Alternative 4-197

5 Cumulative Effects 5-1
5.1 Methodology 5-1
5.2 Geographic Scope and Timeframe 5-1
5.3 Past, Present, and Reasonably Foreseeable Actions 5-2
5.3.1 Past and Present Conditions 5-3
5.3.2 Reasonably Foreseeable Actions 5-4
5.3.2.1 Navy and Department of Defense Actions 5-6
5.3.2.2 Residential, Commercial, and Light Industrial Development 5-13
5.3.2.3 Transportation Projects 5-14
5.3.2.4 Refinery Retrofit and Expansion Projects 5-14
5.3.2.5 Natural Resources Preservation, Restoration, and Enhancement Projects 5-16
5.4 Cumulative Effects Analysis 5-16
5.4.1 Methodology 5-16
5.4.2 Cumulative Effects by Resource Area 5-26
5.4.2.1 Socioeconomics 5-27
5.4.2.2 Air Quality and Greenhouse Gases 5-28
5.4.2.3 Biological Resources 5-32
5.4.2.4 Transportation, Traffic, and Circulation 5-37
5.4.2.5 Hazards and Hazardous Substances 5-38
5.4.2.6 Public Services 5-41
5.4.2.7 Water Resources 5-43

6 Other Considerations Required by NEPA 6-1
6.1 Consistency with Other Federal, State, and Local Plans, Policies, and Regulations 6-1
6.1.1 Federal Acts, Executive Orders, Policies, and Plans 6-1
6.1.2 State, Local, and Regional Plans, Policies, and Controls 6-2
6.2 Irreversible and Irretrievable Commitment of Resources 6-2
6.3 Unavoidable Adverse Environmental Effects and Considerations that Offset Adverse Effects 6-3
6.4 Relationships between Short-term Uses of the Environment and the Enhancement of Long-term Productivity 6-3

7 Identification of Mitigation Measures 7-1

8 List of Preparers 8-1

9 References 9-1

10 Distribution List 10-1

Appendix

A Agency Correspondence A-1

B Scoping Summary Report B-1

C Air Quality Analysis Supporting Information C-1

D Biological Resources Supporting Information D-1

E Hazards and Hazardous Substances Supporting Information E-1

F Infrastructure and Utilities Supporting Information F-1

G Record of Non-Applicability (RONA) for Clean Air Act (CAA) Conformity G-1

H Transportation Impact Study H-1

I Biological Opinion I-1

J Section 106 MOA J-1

K Response to Public Comments K-1

L Public Notification for Draft EIS L-1

This page intentionally left blank.

List of Figures

Figure		Page
ES-1	Alternative 1: Preferred Alternative	ES-5
ES-2	Alternative 2: Intensified Reuse	ES-11
1-1	Vicinity Map	1-5
2-1	Alternative 1: Preferred Alternative	2-3
2-2	Alternative 2: Intensified Reuse	2-5
3.2-1	Existing Land Use	3-3
3.2-2	Regional Land Use Designations	3-7
3.5-1	Vegetation Communities and Habitats	3-53
3.7-1	Faults	3-93
3.7-2	Soil Units	3-101
3.8-1	ER Program Sites	3-111
3.8-2	Potential Radiological Sites	3-139
3.10-1	Community Facilities	3-153
3.11-1	Study Locations	3-161
3.11-2	Study Locations AM Peak Hour Level of Service	3-179
3.11-3	Study Locations PM Peak Hour Level of Service	3-181
3.11-4	Bus Routes and BART Stations	3-185
3.11-5	Bike Trails	3-187
3.13-1	Visual Setting	3-199
3.13-2	Characteristic Panoramic Views within the ROI	3-201
3.13-3	Characteristic Feature Views within the ROI	3-207
3.13-4	KOP 1 – Salvio Street and Mt. Diablo Street	3-213
3.13-5	KOP 2 – Concord High School	3-214

3.13-6 KOP 3 – State Route 4 3-215
3.13-7 KOP 4 – Bailey Road 3-216
3.13-8 KOP 5 – Panoramic Drive 3-217
3.13-9 KOP 6 – Beechwood Drive 3-218
3.14-1 Surface Waters and Wetlands 3-225
4.4-1 Alternative 1 Sensitive Receptor Buffer for Air Quality Concerns 4-37
4.4-2 Alternative 2 Sensitive Receptor Buffer for Air Quality Concerns 4-45
4.5-1 Alternative 1 Redevelopment and Potential Vegetation Impacts 4-51
4.5-2 Alternative 2 Redevelopment and Potential Vegetation Impacts 4-67
4.8-1 Alternative 1 ER Program Sites 4-95
4.8-2 Alternative 1 Potential Radiological Sites 4-99
4.8-3 Alternative 2 ER Program Sites 4-105
4.8-4 Alternative 2 Potential Radiological Sites 4-109
4.9-1 Predicted Traffic Noise Receptor Locations 4-113
4.11-1 Traffic Analysis Zones 4-135
4.11-2 Trip Distribution 4-137
4.11-3 Impacted Traffic Locations under Alternative 1 and Alternative 2 4-143
4.12-1 Potential Locations of the Electrical and Natural Gas Facilities 4-165
4.14-1 Alternative 1 Redevelopment and Potential Surface Water Impacts 4-181
4.14-2 Alternative 2 Redevelopment and Potential Surface Water Impacts 4-195
5-1 Reasonably Foreseeable Projects within 1 Mile of the Project 5-7
5-2 Reasonably Foreseeable Projects within 5 Miles of the Project 5-9
5-3 Northern Contra Costa County; Refinery-related Projects, Marine Terminals, and Regional Parks 5-11

List of Tables

Table		Page
ES-1	Summary Comparison of Proposed Alternatives	ES-10
ES-2	Comparison of Environmental Consequences	ES-13
1-1	NWS Concord Existing Development Inventory	1-4
1-2	Quantity of Comments by Topic	1-10
1-3	Summary of Comment Statements Received during the Public Comment Period	1-12
2-1	Definitions of Development Terms	2-8
2-2	Summary Comparison of Proposed Alternatives	2-17
2-3	Summary of Alternatives Considered in the CEQA Environmental Review Process and Eliminated from Consideration in this EIS	2-19
2-4	Comparison of Environmental Consequences	2-23
3.2-1	Former NWS Concord Development and Other Districts	3-16
3.3-1	Civilian Employment by Industry Sector (2015)	3-24
3.3-2	Largest Employers, Contra Costa County, California (2016)	3-25
3.3-3	Largest Employers, City of Concord, California	3-25
3.3-4	Regional and Local Annual Average Labor Force and Unemployment Rates (2013 to 2015)	3-26
3.3-5	Regional and Local Per Capita and Median Household Income (2013 to 2015)	3-26
3.3-6	Regional and Local Total Population (1990 to 2015)	3-26
3.3-7	Regional and Local Population Forecast (2010 to 2035)	3-27
3.3-8	Total Housing Stock by Type of Structure (2015)	3-27
3.3-9	Regional and Local Housing Vacancy Rates, Median Value, and Median Gross Rent (2015)	3-28
3.3-10	Available Office, Industrial, and Retail Space in the City of Concord (2013)	3-28
3.3-11	Revenues and Expenditures for Contra Costa County and the City of Concord (FY Ending June 30, 2016)	3-29

3.3-12 Tax Revenue by Type for Contra Costa County and the City of Concord (FY Ending June 30, 2016) 3-29

3.3-13 Environmental Justice Population Characteristics 3-31

3.4-1 Summary of NAAQS and CAAQS 3-34

3.4-2 Global Warming Potential for Greenhouse Gases (100 year time horizon) 3-37

3.4-3 County and Regional Emission Inventory 3-37

3.4-4 Historical Air Quality Data at the 2975 Treat Boulevard Monitoring Station 3-39

3.4-5 Air Quality Attainment Status for the Bay Area Air Quality Management District 3-41

3.5-1 Biological Resource Surveys Completed in the Proposed Action Area 3-49

3.5-2 Summary of Vegetation Communities and Habitats within the Former NWS Concord 3-51

3.5-3 Federal and State Listed Wildlife with Potential to Occur on the Former NWS Concord 3-58

3.6-1 Archaeological Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord 3-69

3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord 3-74

3.7-1 Faults Near the Former NWS Concord Site 3-92

3.7-2 Soils of Undeveloped Areas on the Former NWS Concord 3-96

3.7-3 Soils Altered for Development Purposes on the Former NWS Concord 3-96

3.7-4 Soil Types on the Former NWS Concord Site with Prime Farmland Status or Limitations for Development 3-98

3.8-1 Summary of Environmental Restoration Program Sites 3-113

3.8-2 Impacted Sites Identified by Historical Radiological Assessment 3-135

3.9-1 Decibel Levels of Common Sounds 3-145

3.9-2 City of Concord's Guidelines for Land Use Compatibility with Community Noise Exposure 3-146

3.9-3 Long-Term Noise Monitoring Results 3-148

3.9-4 Spot Measurement Results 3-148

3.11-1 Proposed Transportation Projects Near NWS Concord 3-157

3.11-2 Study Locations 3-165
3.11-3 Existing Roadway Segment Peak-Hour Traffic Volumes 3-167
3.11-4 Freeway Segment Peak-Hour Traffic Volumes 3-168
3.11-5 Freeway Ramp Peak-Hour Traffic Volumes 3-169
3.11-6 Intersection Peak-Hour Traffic Volumes 3-170
3.11-7 General Level of Service Description 3-172
3.11-8 Roadway Segment Peak-Hour Level of Service 3-173
3.11-9 Freeway Segment Peak-Hour Level of Service 3-173
3.11-10 Freeway Ramp Peak-Hour Level of Service 3-175
3.11-11 Intersection Peak-Hour Level of Service 3-176
3.11-12 Existing Peak-Hour Delay Index on Freeways in Central and Eastern Contra Costa County 3-178
3.11-13 Existing Peak-Hour High-Occupancy Vehicle Lane Utilization on SR 4 in Eastern Contra Costa County 3-178
3.13.1 City of Concord General Plan Principles and Policies Related to Visual Resources 3-206
3.13.2 Concord Reuse Project Area Plan Principles and Policies Related to Visual Resources 3-211
3.13-3 KOP Selection 3-212
3.14-1 Federal and State Jurisdictional Wetlands 3-227
3.14-2 Existing Beneficial Uses for Mt. Diablo Creek 3-228
3.14-3 Existing and Potential Beneficial Uses for the Clayton Valley Groundwater Basin 3-229
3.14-4 Peak Discharge Estimates for Mt. Diablo Creek 3-231
4.1-1 Summary Comparison of Proposed Alternatives: Development Footprint and Impervious Surface Totals 4-1
4.2-1 Summary Comparison of Proposed Alternatives 4-4
4.3-1 Summary of Estimated Total Impacts (Direct, Indirect, and Induced) in Contra Costa County from Construction Expenditures under Alternative 1 4-15
4.3-2 Total Direct Employment at Full Build-Out by Development District under Alternative 1 4-16

4.3-3 Total Direct, Indirect, and Induced Employment Impacts of Alternative 1 by Development District at Full Build-Out 4-17

4.3-4 Annual Direct, Indirect, and Induced Employee Earnings Impacts of Alternative 1 by Development District at Full Build-Out 4-19

4.3-5 Summary of Estimated Population Impacts at Full Build-Out of Alternative 1 4-20

4.3-6 Housing and Commercial Property by Development District and Housing Unit Type under Full Build-Out of Alternative 1 4-21

4.3-7 Estimated Annual Property Tax Revenue by Property Tax Type upon Full Build-Out of Alternative 1 4-24

4.3-8 Estimated Change in Sales and Use Tax upon Full Build-Out of Alternative 1 4-24

4.3-9 Summary of Estimated Population Impacts at Full Build-Out of Alternative 2 4-27

4.3-10 Housing by Development District and Type under Full Build-Out of Alternative 2 4-28

4.4-1 Population Projections, Alternative 1 4-32

4.4-2 Daily VMTs and Population Projections, Based on Transportation Analysis, Alternative 1 4-32

4.4-3 Annual VMTs and Population Projections, Based on CalEEMod Modeling, Alternative 1 4-32

4.4-4 Maximum Daily Criteria Pollutant Emissions from Construction, 2016 to 2035 4-33

4.4-5 Annual Criteria Pollutant Exhaust Emissions from Construction 2016 to 2035 4-34

4.4-6 Maximum Daily and Annual Criteria Pollutant Emissions from Operations 4-35

4.4-7 Annual GHG Emissions, Alternative 1 4-40

4.4-8 Population Projections, Alternative 2 4-41

4.4-9 Daily VMTs and Population Projections Based on Transportation Analysis, Alternative 2 4-41

4.4-10 Annual VMTs and Population Projections Based on CalEEMod Modeling, Alternative 2 4-41

4.4-11 Maximum Daily Criteria Pollutant Exhaust Emissions from Construction, 2016 to 2035 4-42

4.4-12 Annual Criteria Pollutant Exhaust Emissions from Construction 2016 to 2035 4-42

4.4-13 Daily Maximum and Annual Criteria Pollutant Emissions from Operations 4-44

4.4-14 Annual GHG Emissions, Alternative 2 4-47

4.5-1 Vegetation Communities and Habitat Impacts at the Former NWS Concord (Alternative 1) 4-53

4.5-2 Vegetation Communities and Habitat Impacts at the Former NWS Concord (Alternative 2) 4-69

4.6-1 Findings of Effect on Historic Properties 4-76

4.8-1 Relationship of ER Program Sites to Proposed Development and Other Districts, Alternatives 1 and 2 4-86

4.8-2 Relationship of Radiological Sites to Proposed Development and Other Districts, Alternatives 1 and 2 4-98

4.9-1 Estimated Noise Levels from Construction Equipment 4-111

4.9-2 Predicted Traffic Noise Levels (Alternative 1) 4-115

4.9-3 Traffic Noise Abatement Criteria, Hourly A-weighted Sound Level (dBA) 4-115

4.10-1 School-aged Population Projections by Grade Level at Full Build-out under Alternative 1 4-121

4.10-2 Alternative 1 – Allocated Acreage for K-12 Schools 4-122

4.10-3 Projected Annual Public Hospital Utilization at Full Build-Out 4-125

4.11-1 CCTA Model Planned or Programmed Roadway Improvements 4-129

4.11-2 Daily Vehicle Trip Summaries 4-132

4.11-3 Daily Vehicle Trip Summaries by TAZ 4-132

4.11-4 Trip Distribution 4-134

4.11-5 Daily Person Trips by Mode 4-139

4.11-6 2013 Contra Costa Congestion Management Program: Performance Standards 4-140

4.11-7 Central County and East County Action Plans for Routes of Regional Significance: Multi-modal Transportation Service Objectives (MTSO) 4-141

4.11-8 City of Concord General Plan: Performance Standards 4-141

4.11-9 Operational Impacts, Intersections 4-147

4.11-10 Operational Impacts, Roadway Segments 4-151

4.11-11 Operational Impacts, Freeway Segments 4-152

4.11-12 Operational Impacts, Freeway Ramps 4-153

4.12-1 Projected Water Demand (gpd) at Full Build-out for Alternatives 1 and 2 4-157
4.12-2 Projected Wastewater Volume (gpd) at Full Build-Out for Alternatives 1 and 2 4-161
4.13-1 BLM Guidance for Assessing Contrast 4-172
4.13-2 Degree of Contrast Definitions 4-173
4.14-1 Summary of Other Waters Impacts under Alternative 1 4-180
4.14-2 Summary of Wetland Impacts under Alternative 1 4-186
4.14-3 Summary of Other Waters Impacts under Alternative 2 4-192
4.14-4 Summary of Wetland Impacts under Alternative 2 4-193
5-1 Summary of Development Proposed and Approved by Local Jurisdictions 5-5
5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts 5-17
5-3 Air Emissions Sources within 5 Miles of the Former NWS Concord 5-31
5-4 Status of Petroleum Refineries within 5 Miles of Former NWS Concord 5-40
5-5 Proposed Projects and Additions to Open Space/Parklands 5-42
7-1 Summary Table of Mitigation Measures 7-3

Acronyms and Abbreviations

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
AEC	Atomic Energy Commission
AF	acre-feet
AFY	acre-feet per year
Alquist-Priolo Act	California Alquist-Priolo Earthquake Fault Zoning Act
AMR	American Medical Response
amsl	above mean sea level
AOPI	Area of Potential Interest
APE	Area of Potential Effect
AQMD	Air Quality Management District
Area Plan	*Concord Reuse Project (CRP) Area Plan*
ARPA	Archaeological Resources Protection Act
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BA	Biological Assessment
BAAQMD	Bay Area Air Quality Management District
BART	(San Francisco) Bay Area Rapid Transit
BCDC	Bay Conservation and Development Commission
BGEPA	Bald and Golden Eagle Protection Act
bgs	below ground surface
BLM	(U.S. Department of the Interior) Bureau of Land Management

BMP	Best Management Practices
BO	Biological Opinion
B.P.	Before Present
BRAC	Defense Base Closure and Realignment
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAAS	Commission of Accreditation of Ambulance Services
CAC	Community Advisory Committee
C&D	construction and demolition
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	(Concord Citywide) Climate Action Plan
CAPCOA	California Air Pollution Control Officers' Association
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCCFPD	Contra Costa County Fire Protection District
CCCFC&WCD	Contra Costa County Flood Control and Water Conservation District
CCCSD	Central Contra Costa Sanitary District
CCCWP	Contra Costa County Clean Water Program
CCHS	Contra Costa Health Services
CCPD	City of Concord Police Department
CCR	California Code of Regulations

CCTA	Contra Costa Transportation Authority
CCWD	Contra Costa Water District
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CDS	Concord Disposal Service
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CHP	California Highway Patrol
CH_4	methane
CII	Commercial, Institutional, Industrial
CLMR	Conditional Letter of Map Revision
CMP	Congestion Management Program
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CNWS	Concord Naval Weapons Station
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalency
COP	conference of the parties

CRM	cultural resource management
CRP	Concord Reuse Project
CSLC	California State Lands Commission
CSU	California State University
CTC	California Transportation Commission
CTP	California Transportation Plan
CUPA	Certified Unified Program Agency
CVP	(U.S. Bureau of Reclamation) Central Valley Project
CWA	Clean Water Act
CWP	County Watershed Program
cy	cubic yards
dB	decibel
dBA	A-weighted decibel
DNL	day-night average sound level (in decibels)
DBCRA	Defense Base Closure and Realignment Act of 1990
DEIR	Draft Environmental Impact Report
DERP	Defense Environmental Restoration Program
DO	dissolved oxygen
DOD	Department of Defense
DOT	U.S. Department of Transportation
DTSC	(California) Department of Toxic Substances Control
du	dwelling unit
DWSAP	Drinking Water Source Assessment and Protection
EBMUD	East Bay Municipal Utility District
EBRPD	East Bay Regional Park District
EBS	Environmental Baseline Survey

ECCFPD	East Contra Costa Fire Protection District
ECCCHCP/NCCP	East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan
EE/CA	engineering evaluation/cost analysis
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMS	Emergency Medical Services
EO	Executive Order
EOD	Explosive Ordnance Disposal
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ER	Environmental Restoration
ESA	Endangered Species Act
Far Western	Far Western Anthropological Research Group, Inc.
FE	federally listed as endangered
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FFA	Federal Facility Agreement
FFS	Focused Feasibility Study
FHA	Federal Highway Administration
FIRMs	Flood Insurance Rate Maps
FOSET	Finding of Suitability for Early Transfer
FOST	Finding of Suitability to Transfer
FPPA	Farmland Protection Policy Act
FR	*Federal Register*
FS	feasibility study

FT	federally listed as threatened
FTA	
FTE	full-time equivalent
FUDS	formerly utilized defense sites
FY	Fiscal Year
g	gravity
gpd	gallons per day
GAO	General Accounting Office
GHG	greenhouse gas
GIS	geographic information system
gpcd	gallons per capita per day
GWP	global warming potential
HAPs	hazardous air pollutants
HCM	Highway Capacity Manual
HFCs	hydrofluorocarbons
HMMP	Habitat Mitigation and Monitoring Plan
HOV	High-Occupancy Vehicle
HRA	historical radiological assessment
HUD	(U.S. Department of) Housing and Urban Development
HVAC	Heating, Ventilation, and Air Conditioning
I-	Interstate (Highway)
IAS	Initial Assessment Study
IBC	International Building Code
ICC	International Code Council
ICs	institutional controls
IPCC	Intergovernmental Panel on Climate Change

IPM	integrated pest management
IRP	Installation Restoration Program
ITP	Incidental Take Permit
ITS	Incidental Take Statement
JRP	JRP Historical Consulting, LLC
KCL	Keller Canyon Landfill
km	kilometer
KOP	key observation point
LA_{eq}	A-weighted energy equivalent level (in decibels)
LAFCO	Land Agency Formation Commission
LBP	lead-based paint
L_{dn}	Day-Night Average Sound Level
Leq(24)	24-hour equivalent continuous sound level
LID	Low Impact Development
LOS	level of service
LRA	Local Redevelopment Authority
LUCs	land use controls
LUC-RD	land use control remedial design
M	magnitude (Richter Magnitude Value Scale)
MBTA	Migratory Bird Treaty Act
MDUSD	Mount Diablo Unified School District
MEC	munitions and explosives of concern
mgd	million gallons per day
MMRP	Mitigation Monitoring and Reporting Plan *or* Military Munitions Response Program
mm/yr	millimeters per year

MOA	Memorandum of Agreement
MOTCO	Military Ocean Terminal Concord
MOTEMS	Marine Oil Terminal Engineering Maintenance Standards
mph	miles per hour
MPO	Metropolitan Planning Organization
MPP	multi-purpose pipeline
MPPEH	material potentially presenting and explosive hazard
the MSA	San Francisco-Oakland-Fremont Metropolitan Statistical Area
MTC	Metropolitan Transportation Commission
$MTCO_2e$	Metric Tons Carbon Dioxide Equivalent
MTSO	multi-modal transportation service objective
NAAQS	National Ambient Air Quality Standards
NAD	Naval Ammunition Depot
NAVFAC HQ	Naval Facilities Engineering Command Headquarters
Navy	The U.S. Department of the Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act of 1969
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO	nitric oxide
NOA	Notice of Availability
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	nitrogen oxides
NO_2	nitrogen dioxide

NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRC	U.S. Nuclear Regulatory Commission
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRM	natural resources management
NRMP	Naval Radioactive Materials Permit
NTCHS	National Technical Committee for Hydric Soils
NTCRA	non-time-critical removal action
NWS Concord	Naval Weapons Station Seal Beach Detachment Concord
N_2O	nitrous oxide
OEA	(DOD) Office of Economic Adjustment
O_3	ozone
PA	preliminary assessment
PA/SI	preliminary assessment/site inspection
PAH	polycyclic aromatic hydrocarbon
PBC	public benefit conveyance
PCBs	polychlorinated biphenyls
%g	percent of gravity
PFCs	perfluorocarbons
PGA	peak ground acceleration
PG&E	Pacific Gas and Electric Company
PHL	Potrero Hills Landfill
P.L.	Public Law
PM_{10}	particulate matter less than or equal to 10 microns

$PM_{2.5}$	particulate matter less than or equal to 2.5 microns
PMO	Navy BRAC Program Management Office
POC	point-of-contact
ppm	parts per million
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
PSTS	professional, scientific, and technical services
P66	Phillips 66 Company
RASO	Radiological Affairs Support Office
RCRA	Resource Conservation and Recovery Act of 1976
RD	remedial design
RFA	RCRA Facility Assessment
RHL	Rural Historic Landscape
RI/FS	remedial investigation/feasibility study
RIMS II	Regional Input-Output Modeling System
ROD	Record of Decision
ROG	reactive organic gases
ROI	region of influence
RONA	Record of Non-Applicability
ROW	right-of-way
RTIP	Regional Transportation Improvement Program
RTPC	Regional Transportation Planning Committee
RVI	re-verification investigation
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SDDS	Surface Deployment and Distribution Command

SDWA	Safe Drinking Water Act
SE	State-listed Endangered
SFBAAB	San Francisco Bay Area Air Basin
SFO	San Francisco International Airport
SF_6	sulfur hexafluoride
SHOPP	State Highway Operating and Protection Program
SHPO	State Historic Preservation Office
SI	Site Investigation
SIP	State Implementation Plan
SO_2	sulfur dioxide
SPCC	spill prevention, control, and countermeasure
SR	State Route
SSC	Species of Special Concern
ST	state-listed as threatened
STIP	State Transportation Improvement Program
SWMU	solid waste management unit
SWPP	Stormwater Pollution Prevention Plan
SWQCB	(California) State Water Quality Control Board
SWRCB	(California) State Water Resources Control Board
TACs	toxic air contaminants
TAZ	Traffic Analysis Zone
TCE	trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TDM	Travel Demand Management
TMDL	Total Maximum Daily Load
TOD	Transit-Oriented Development

TSCA	Toxic Substances Control Act
UNFCCC	United Nations Framework Convention on Climate Change
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
v/c	volume-to-capacity ratio
VdB	vibration velocity level in decibels
VMTs	vehicle miles traveled
VOC	volatile organic compound
WAPA	Western Area Power Administration
WesPac	WesPac Energy—Pittsburg LLC
WTP	water treatment plant
WWTP	wastewater treatment plant

Executive Summary

ES.1 Description of the Proposed Action

This Environmental Impact Statement (EIS) evaluates the U.S. Department of the Navy's (Navy's) proposal to dispose of surplus property at the former Naval Weapons Station Seal Beach Detachment Concord (NWS Concord), in the City of Concord, Contra Costa County, California, and the potential subsequent redevelopment of the property by the local community. In March 2007, the Navy declared approximately 5,028 acres of property (subsequently revised to 4,972 acres of property) at the former NWS Concord to be surplus to the needs of the federal government, in accordance with Public Law (P.L.) 101-510, the Defense Base Closure and Realignment Act of 1990, as amended in 2005 (DBCRA). Redevelopment of the property would be conducted in accordance with the *Concord Reuse Project Area Plan* (Area Plan), as adopted by the City of Concord in 2012. The Area Plan encompasses a total of 5,046 acres, and includes approximately 74 acres of non-Navy property. All potential impacts of the proposed disposal and reuse are evaluated in this EIS.

This EIS was prepared in accordance with the requirements of the DBCRA, National Environmental Policy Act (NEPA) of 1969, as amended (P.L. 91-190, 42 United States Code [U.S.C.] 4321-4370f); the Council on Environmental Quality (CEQ) procedures implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508); and Navy procedures for implementing NEPA (32 CFR 775). The Navy is the lead agency for the proposed action, with the U.S. Army Corps of Engineers (USACE) serving as a cooperating agency for the preparation of this EIS.

The purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord during reuse planning that took place between 2008 and 2012. The need for the proposed action is to comply with the DBCRA and to provide the local community the opportunity for economic development and job creation.

ES.2 Background

Base closure and realignment is the process used by the U.S. Department of Defense (DOD) to reorganize its installation infrastructure to more efficiently and effectively support its forces, increase operational readiness, and facilitate new ways of doing business. There are three primary phases of the BRAC process: disposal planning, surplus property designation and notice, and property disposal. A timeline of the BRAC process for the former NWS Concord includes the following milestones:

- **September 8, 2005:** The 2005 Defense Base Closure and Realignment Commission presented its Final Report to the President, which included the recommendation for the closure of NWS Concord.
- **February 7, 2006:** The DOD Office of Economic Adjustment (OEA) recognized the City of Concord as the Local Redevelopment Authority (LRA) responsible for the planning and redevelopment of surplus property at NWS Concord.
- **March 6, 2007:** A total of 5,028 acres of land at NWS Concord was determined surplus to the needs of the federal government (72 *Federal Register* [FR] 9935), following the transfer of approximately 60 percent of the total land area to other DOD and federal agencies. (The total area of surplus property was subsequently revised to be 4,972 acres, which will be used throughout this EIS.)
- **September 30, 2008:** The Navy closed the former NWS Concord in accordance with the DBCRA.

- Upon completion of the NEPA process, the Navy will issue its final disposal decision and may convey the surplus property.

The surplus property of the former NWS Concord is located entirely within the City of Concord, Contra Costa County, California. The total area of the surplus property, which will be used throughout this EIS, is approximately 4,972 acres. This acreage is based on recent research completed since the Navy's surplus property determination and includes approximately 6 acres of noncontiguous property 500 feet to the west of the installation and west of Olivera Road[1]. The former NWS Concord is located approximately 35 miles northeast of the City of San Francisco. The unincorporated communities of Clyde and Bay Point are located to the north, the City of Pittsburg is located to the east, and the City of Clayton is located to the southeast.

As indicated above, the city was recognized as the LRA responsible for developing a reuse plan for the surplus property at NWS Concord. The city initiated a community planning process in 2006 and evaluated seven alternatives for reuse of the surplus property.

The city evaluated the environmental impacts of these alternatives in a Draft Environmental Impact Report (DEIR), prepared in compliance with the California Environmental Quality Act (CEQA). The DEIR was initially published in 2008 and underwent extensive public review and comment. In response to comments received, the city eliminated all but two reuse alternatives. Those two alternatives, called "Clustered Villages" and "Concentration and Conservation," were subjected to further environmental review in a second DEIR and a Final EIR (FEIR). The Concord city council adopted the preferred, Clustered Villages alternative and certified the FEIR, Findings of Significance, and a Mitigation Monitoring and Reporting Plan (MMRP) in 2010.[2]

In 2012, the City of Concord refined the reuse plan, adopted the resulting *Concord Reuse Project (CRP) Area Plan* (the Area Plan, hereafter), certified an addendum to the FEIR, and amended Concord's citywide Concord 2030 General Plan (City of Concord 2012) to include the Area Plan. By incorporating the Area Plan into the General Plan, the community's state-required "constitution for future development," the City of Concord institutionalized its policies and guidance for reuse of the former NWS Concord.

ES.3 Scope of the EIS

This EIS evaluates the potential human and natural environmental consequences of the disposal of surplus property by the Navy and subsequent reuse by the local community. The resource areas examined in this EIS and potentially impacted are land use and zoning; socioeconomics and environmental justice; air quality and greenhouse gases; biological resources; cultural resources; topography, geology, and soils; hazards and hazardous substances; noise; public services; transportation, traffic, and circulation; utilities and infrastructure; visual resources and aesthetics; and water resources. The EIS also addresses potential cumulative impacts that may result from reasonably foreseeable projects in the region, including both federal and local projects.

[1] This Final EIS is intended to address disposal of all Navy surplus property, and the acreages cited here are provided as estimates for purposes of analysis.

[2] Measures identified in the certified FEIR and its addendum and the associated Mitigation Monitoring and Reporting Plan that will avoid or mitigate potential environmental impacts are the responsibility of future developers or owners of the property. Compliance with these measures would take place under the jurisdiction and review of the City of Concord and federal, state, and local agencies with regulatory authority over and responsibility for such resources.

This EIS addresses impacts based on the construction and full build-out timeframe of the approved Area Plan (25 years) and assumptions regarding foreseeable reuses of the property.

ES.4 Alternatives Considered in the EIS

The proposed action is the disposal of surplus property at the former NWS Concord by the Navy and subsequent reuse of the property by the local community. The primary approach to development of the proposed action and alternatives was to (1) focus on the Navy's disposal of surplus property with the Area Plan as the reasonably foreseeable reuse of the property and then (2) consider a range of reasonable disposal alternatives and assess the human and natural environmental effects in the context of the reasonably foreseeable reuse of the property.

To assess the potential impacts of the proposed action, the Navy evaluated two property disposal and reuse alternatives—Alternative 1 and Alternative 2—and a No Action Alternative. Both Alternative 1 and Alternative 2 would be generally consistent with the policies adopted by the City of Concord during the reuse planning process that took place between 2008 and 2012. Both alternatives focus on the preservation of a significant area of open space and conservation areas, and sustainable development characterized by walkable neighborhoods, transit-oriented development (TOD), and "complete streets" that balance multiple types of transportation. Both alternatives would also be characterized by a series of "villages" connected by transit, allowing for significant new development while maintaining more than half of the site as parks, recreation land, and open space. Under both alternatives, the western side of the property would be developed as a series of mixed-use "development districts," with a higher concentration of development at the north end, near State Route (SR) 4 and the North Concord/Martinez Bay Area Rapid Transit (BART) Station. These alternatives are further described below.

However, implementation of the Area Plan will be dynamic, long-term, and dependent on market and general economic conditions beyond the control of both the Navy and the City of Concord. Specific activities and uses that may be developed at the former NWS Concord site cannot be predicted precisely at this time; nonetheless, the reuse of the former NWS Concord is expected to take place in a manner generally consistent with the nature of uses described in the alternatives.

ES.4.1 Alternative 1 (Preferred Alternative)

Alternative 1 includes the disposal of surplus property at the former NWS Concord by the Navy and reuse in accordance with the city's Area Plan, as adopted (see Figure ES-1). This alternative has been identified as the preferred alternative by the Navy.

Under Alternative 1, approximately 70 percent of the property would be maintained as conservation, parks, or recreational land uses, and 30 percent would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses within eight types of "development districts." Development on the site would allow for up to a maximum of 12,272 housing units and 6.1 million square feet of commercial space within the development footprint. Two major conservation areas proposed include a 2,537-acre regional park, which would encompass the east side of the property along the ridgeline of Los Medanos Hills, and the Mt. Diablo Creek corridor.

A summary of the types of development districts and the number of each of these development districts that would be established as part of Alternative 1 is presented below.

North Concord TOD Core (One District)

The North Concord TOD Core would be located in close proximity to the North Concord/Martinez BART Station, would serve as a regional employment center, and would have the highest intensity employment and mixed-use development within the plan area. The mixed-use development would include offices and retail shops, and may include multi-unit housing.

North Concord TOD Neighborhoods (Two Districts)

Located on the outskirts of the North Concord TOD Core, this development district would be a mixed-use residential district. Development would be within approximately 0.5 mile of the North Concord/Martinez BART Station to encourage pedestrian over vehicle traffic. This mixed-use residential development would consist of mid-rise multi-unit housing (approximately three- to six-story), community facilities such as libraries and schools, and commercial uses such as retail and grocery stores.

Central Neighborhoods (Two Districts)

Located on the outskirts of the North Concord TOD Neighborhoods, extending 0.5 to 1 mile from the North Concord/Martinez BART Station, this development district would be a moderate density, mixed-use residential district serving a range of household types and sizes. A mix of housing types, including mid-rise (approximately three- to six-stories) multi-unit homes, low- to mid-rise multi-unit homes, and attached single-unit housing, would be located throughout the district. Housing would be in close proximity to retail shops, community facilities, and transit service, with the highest density of development envisioned to be around transit stops. Mid-rise buildings (approximately three- to six-stories) would be located along Los Medanos Boulevard, a through street that would bisect the southern Central Neighborhood.

Village Centers (Seven Districts)

The Village Centers would act as anchors for the Village Neighborhoods (discussed below). Five districts would be located along Los Medanos Boulevard, and two districts would be located in the southwestern portion of the former NWS Concord property. Local-serving retail and services, community facilities, and public gathering spaces would be located within the districts. A mix of housing types, including multi-unit and attached single-unit housing in the form of apartments, townhomes, and condominiums, would also be located within the Village Centers.

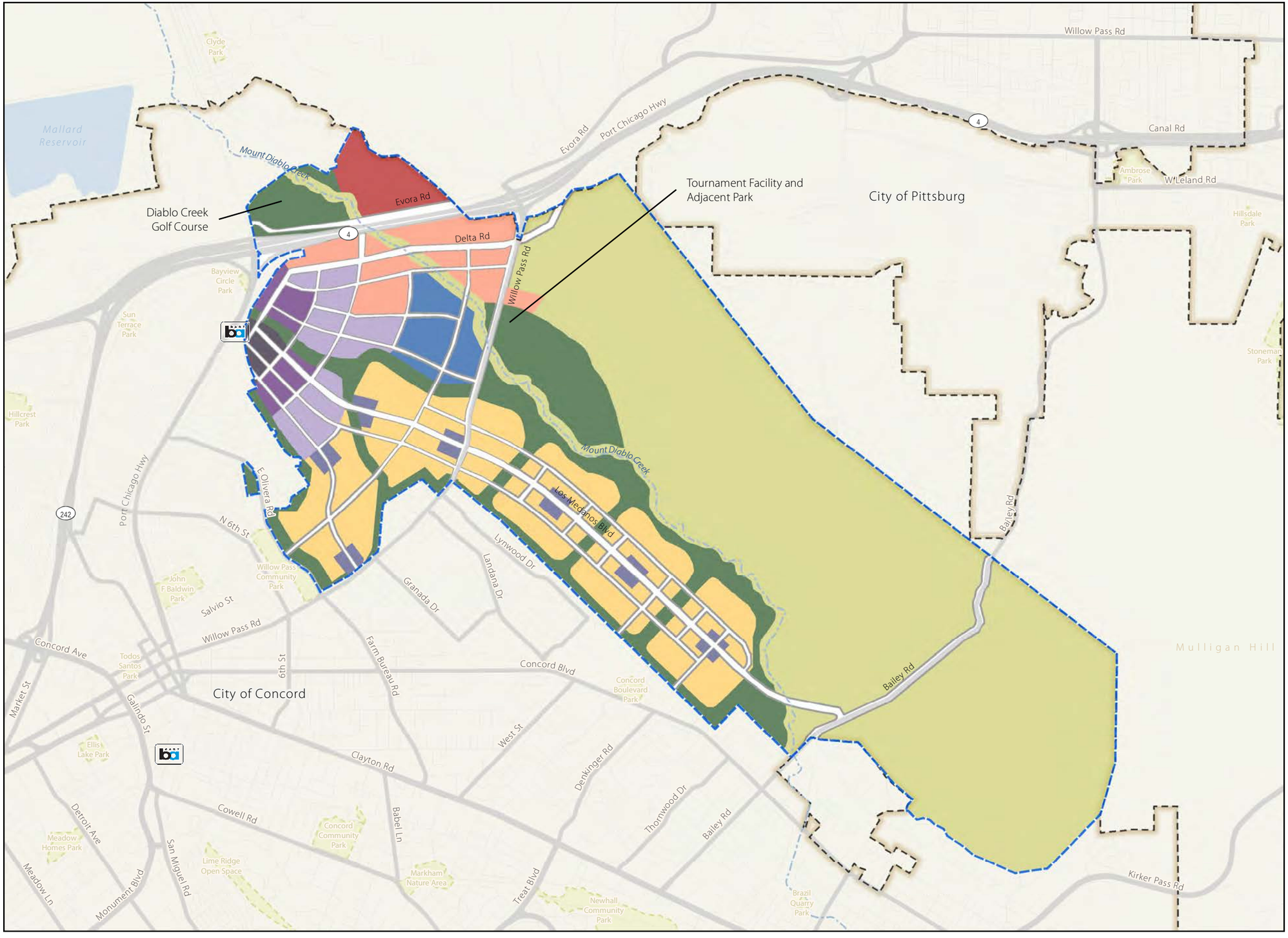
Village Neighborhoods (Five Districts)

The Village Neighborhoods would be residential districts located around the Village Centers. These low- to moderate-density districts would serve a range of household types and sizes through rental and ownership units. Overall development would include low-rise attached single-unit housing in the areas surrounding the Village Centers and detached single-unit homes along the neighborhood edges where the housing density would gradually decrease to transition to adjacent neighborhoods.

Commercial Flex (One District)

Located in proximity to SR 4, this retail and/or workplace district would serve the region. Because of its proximity to SR 4 and Willow Pass Road, the Commercial Flex District is situated for uses that require high-capacity road access or high volumes of pass-by trips. Market demand would dictate the exact proportion of light industrial, large-format retail, research and development, and office uses that would be developed in this district. Overall development would include low-rise buildings with larger block sizes to accommodate larger building footprints typically associated with this type of development. The highest density uses would be located along Delta Boulevard.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\ExecSummary\ES-1 Alternative1.mxd



ES-1

Alternative 1: Preferred Alternative

Former NWS Concord

Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- Roadways

***Alternative 1 Types of Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways, Citywide Parks and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

N

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010

This page intentionally left blank.

Campus (One District)

Located south of the Commercial Flex District, this development district would be a campus environment that could accommodate a range of uses such as educational, research and development, cultural, and health care, and may include a university serving a student population of approximately 10,000 full-time students. These land uses may support complementary uses in the Commercial Flex District. Overall development would include clusters of buildings sited around public spaces. Community facilities, such as a library, could also be part of the Campus District.

First Responder Training Center (One District)

Located north of SR 4, this development district would include 80 acres of training grounds and related facilities to support regional first responders such as the Contra Costa County sheriff's and fire departments.

A summary of the conservation, open space, and recreation districts that would be established as part of Alternative 1 is presented below.

Greenways, Citywide Parks, and Tournament Facilities

The Greenways, Citywide Parks, and Tournament Facilities district consists of parks, recreational areas, and linear open spaces. The Central Greenway would be a minimum of 100 feet wide and would extend throughout the site along Mt. Diablo Creek and adjacent to the northern boundaries of the Village Neighborhoods, as well as through the Central Neighborhood, TOD, and Campus districts. This greenway would occupy approximately 380 acres of the site.

Neighborhood frame greenways would also be located along the southwest perimeter of the site, mostly adjacent to the Village Centers. These greenways would provide a transition space between development districts and existing neighborhoods adjacent to the site. The neighborhood frame greenways would range between 275 feet and 425 feet wide between existing Concord neighborhoods and villages, and between 150 feet and 500 feet wide between proposed villages, for a total of approximately 98 acres.

Three citywide parks would be created. These parks would be located adjacent to the proposed Campus District, adjacent to the existing Willow Pass Park, and at the location of the existing municipal Diablo Creek Golf Course. Each proposed citywide park would be approximately 45 to 175 acres, for an approximate total of 308 acres.

The citywide park adjacent to the Campus District would include an approximately 75-acre tournament sports facility. This facility would provide space for regional adult and youth tournaments, and may include softball, baseball, and soccer fields, as well as volleyball courts, batting cages, and other sports facilities.

Smaller pocket parks between 0.25 and 2 acres would be located throughout the plan area, as would neighborhood parks between 2 and 10 acres in size. The North Concord Plaza would be located at the entryway to the North Concord/Martinez BART Station and would provide pedestrian connections between the BART station and other modes of transportation. The plaza would range between 0.5 acre and 5 acres.

Conservation Open Space

The Conservation Open Space District consists of a large regional open space occupying approximately 2,537 acres, which would be located on the eastern portion of the former NWS Concord, and a linear open space along Mt. Diablo Creek (the Mt. Diablo Creek corridor). The land within this district is anticipated to be designated for open space and regional park uses. The regional park would be managed

by the East Bay Regional Park District (EBRPD), and would include some limited recreational uses, including trails, picnic areas, shaded seating areas, and interpretive areas.

Property Conveyances

Under base closure law, property may be conveyed through a number of different mechanisms. The Navy may dispose of the former NWS Concord property in parcels, using these different mechanisms, including but not limited to an economic development conveyance (EDC), conservation conveyance, or public benefit conveyance (PBC). Under an EDC, the property is transferred directly to the recipient and no federal agency is an intervening sponsor. For a PBC, state or local government entities obtain property when sponsored by a federal agency for uses that would benefit the public, such as education, public roads, parks and recreation, wildlife conservation, or public health.

The Navy proposes to transfer approximately 2,500 acres to the EBRPD and approximately 80 acres to the Contra Costa County Sheriff's Department/Fire Protection District through PBCs. The remainder of the surplus property is proposed for transfer to the City of Concord through an EDC.

ES.4.2 Alternative 2 (Intensified Reuse)

Alternative 2 is also consistent with the policies adopted by the City of Concord during the reuse planning process, but it represents a slightly different land use pattern, increased residential development, and a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development (see Figure ES-2). Alternative 2 also has a slightly smaller development footprint than the Area Plan. The maximum total number of dwelling units and square feet of commercial floor space that can be built within the planning area, known as the Maximum Planning Area-wide Total, is defined in the Area Plan. The total number of dwelling units proposed in Alternative 2 would exceed the Maximum Planning Area-wide Total and require an amendment to the City of Concord's 2030 General Plan.

Under Alternative 2, development and conservation would take place in largely the same locations and according to the same development program, concepts, and principles as Alternative 1, with some differences. Under both alternatives, the western side of the property would be developed as a series of mixed-use "development districts," with a higher concentration of development at the north end, near SR 4 and the North Concord/Martinez BART Station, and a regional park encompassing the eastern side of the property. Both alternatives focus on the preservation of a significant area of open space and conservation areas and sustainable development characterized by walkable neighborhoods, TOD, and "complete streets" that balance multiple types of transportation. Both alternatives would also be characterized by a series of "villages" connected by transit, allowing for significant new development while maintaining more than half of the site as parks, recreation land, and open space.

Approximately 70 percent of the property would be maintained as conservation, parks, or recreational land uses under Alternative 2, and 30 percent would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses within seven development districts. Development on the site would allow for up to a maximum of 15,872 housing units and 6.1 million square feet of commercial space within the development footprint. (The total area of commercial uses would be the same for Alternative 2 as Alternative 1.) Alternative 2 does not include the First Responder Training Center District, and the Campus District would be located in the area occupied by the First Responder Training Center District in Alternative 1. Alternative 2 also includes a smaller total number of Village Neighborhood and Village Center districts and somewhat more expanded TOD Core, TOD Neighborhood, and Central Neighborhood districts. Two major conservation areas proposed include the regional park and the Mt. Diablo Creek corridor. These conservation areas would be managed as proposed in Alternative 1. The citywide park that includes the tournament sports facility in Alternative 1 would be smaller in size in Alternative 2.

Alternative 2, "Intensified Reuse" as presented in this document, is different from Alternative 2, "Connected Villages" as presented in the NOI circulated during the public scoping period in March and April 2013. Alternative 2 was revised by the Navy in response to comments received during the public scoping period to be more consistent with the land use planning policies adopted by the City of Concord as well as known and foreseeable market conditions.

ES.4.3 No Action Alternative

The No Action Alternative is retention of the surplus property at the former NWS Concord by the U.S. government in caretaker status, and is evaluated in this EIS as prescribed by CEQ regulations. Under the No Action Alternative, no reuse or redevelopment would occur at the surplus property. Any current approved uses on the property would continue until remaining leases expire or the Navy decides to renew the lease. No new leases would be created under the No Action Alternative. Any remedial activities underway would continue until environmental cleanup is complete. Facilities would be maintained in accordance with the *BRAC Program Management Office (PMO) Building Vacating, Facility Layaway, and Caretaker Maintenance Guidance* (March 2007). In accordance with the *BRAC PMO Building, Vacating, Facility Layaway, and Caretaker Maintenance Guidance*, only conditions adversely affecting public health, the environment, and safety would be corrected in nonresidential areas.

ES.4.4 Comparison of Alternatives

Table ES-1 provides a comparison of land uses upon full build-out for the surplus property proposed under Alternatives 1 and 2 and analyzed in the EIS.

ES.5 Summary of Potential Environmental Consequences

The EIS examines the potential human and natural environmental consequences of the proposed action. Potential environmental impacts associated with Alternative 1, Alternative 2, and the No Action Alternative are summarized in Table ES-2.

Table ES-1 Summary Comparison of Proposed Alternatives

District	Approximate Size (acres)		Approximate Number of Housing Units		Approximate Commercial Floor Space (square feet)	
	Alt 1	Alt 2	Alt 1	Alt 2	Alt 1	Alt 2
Development Program						
North Concord TOD Core	55	80	700	2,113	3,000,000	3,000,000
North Concord TOD Neighborhoods	90	85	2,200	4,209	150,000	150,000
Central Neighborhoods	180	200	2,600	2,908	100,000	100,000
Village Centers	70	50	500	500	350,000	350,000
Village Neighborhoods	740	730	6,200	6,143	N/A	N/A
Commercial Flex	210	210	N/A	N/A	1,700,000	1,700,000
Campus	120	80	–[3]	–[3]	800,000	800,000
First Responder Training Center	80	N/A	N/A	N/A	N/A	N/A
Greenways, Citywide Parks, and Tournament Facilities	786	786	N/A	N/A	N/A	N/A
Conservation Open Space	2,715	2,825	N/A	N/A	N/A	N/A
Total[1]	**5,046**	**5,046**	**12,200**	**15,872**	**6,100,000**	**6,100,000**
Maximum Planning Area-wide Total[2]	**5,046**	–[4]	**12,272**	–[4]	**6,115,718**	–[4]

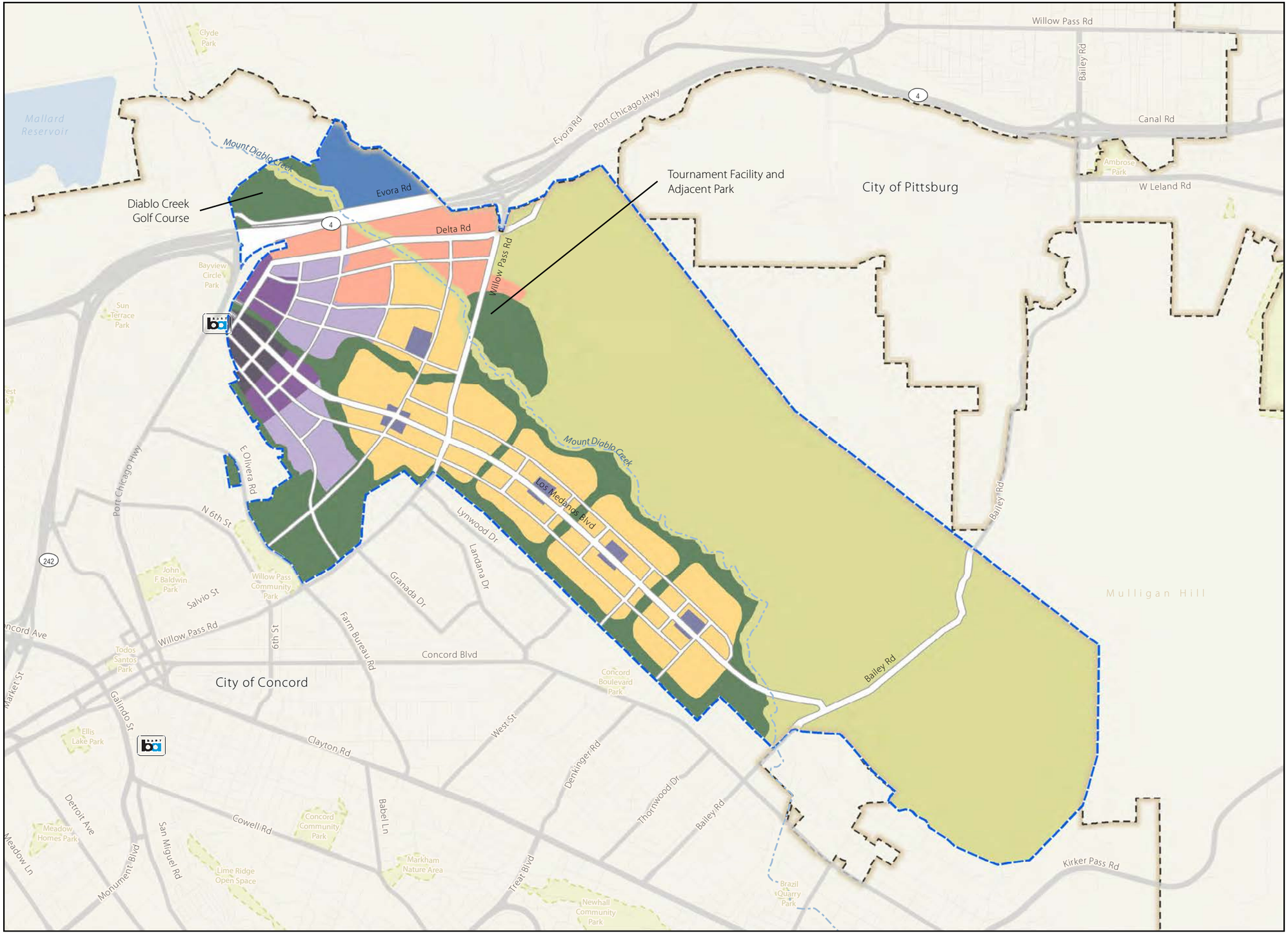
[1] The total area of the surplus property is 4,972 acres. The total area being evaluated for reuse in this EIS is 5,046 acres because the city's Area Plan included some areas, such as the North Concord/Martinez BART Station and the Diablo Creek Golf Course, that are not part of the Navy's surplus property. All potential impacts will be analyzed in this EIS.

[2] The Maximum Planning Area-wide Total is defined in the City of Concord's Area Plan and represents the maximum total number of dwelling units and square feet of commercial floor space that can be built within the planning area. Future planning phases will determine the precise acreage, number of dwelling units, and square feet of commercial space in each district; therefore, the final development program may differ from the one represented in this table as long as the Maximum Planning Area-wide Total is not exceeded. The total number of dwelling units proposed in Alternative 2 would exceed the Maximum Planning Area-wide Total and require an amendment to the City of Concord's General Plan.

[3] Dormitories may be considered for the Campus District, depending on the type of campus developed, but are not currently included in the total number of housing units for the planned area.

[4] The Maximum Planning Area-wide Total is defined in the City of Concord's Area Plan. The Area Plan does not address Alternative 2; therefore, no value is provided. However, since the total number of dwelling units proposed in Alternative 2 would exceed the Maximum Planning Area-wide Total in the Area Plan, an amendment to the City of Concord's General Plan would be required if implemented.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\ExecSummary\ES-2 Alternative2.mxd



ES-2

Alternative 2: Intensified Reuse

Former NWS Concord

Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- Local Park
- Roadways

***Alternative 2 Types of Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- Greenways, Citywide Parks and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010

This page intentionally left blank.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Land Use and Zoning	**On-site Land Use:** ***Significant beneficial impacts.*** • Redevelopment of 5,046 acres into eight development districts, including 2,715 acres of conservation open space. • Redevelopment includes 4,972 acres of surplus property and 74 acres of non-Navy property. • Specific development proposals will follow a planning and permitting process administered by the City of Concord.	**On-site Land Use*: Significant beneficial impacts.*** • Redevelopment of 5,046 acres y into seven development districts, including 2,825 acres of conservation open space. • Redevelopment includes 4,972 acres of surplus property and 74 acres of non-Navy property. • Specific development proposals will follow a planning and permitting process administered by the City of Concord.	**On-site Land Use:** ***Significant adverse impact.*** • Existing land uses not consistent with Area Plan and other plans (also see Consistency with Land Use Plans and Zoning below).
	Regional/Adjacent Land Use: ***No significant impact.*** • Redevelopment of the 5,046-acre property will relieve development pressure on sensitive land resources in county. • Consistent with local/regional land uses and land use plans. • Reduced off-site development pressure with mixed-use development planned on-site.	**Regional/Adjacent Land Use:** ***No significant impact.*** • Redevelopment of the 5,046-acre property will relieve development pressure on sensitive land resources in county. • Consistent with local/regional land uses and land use plans. • Reduced off-site development pressure with mixed-use development planned on-site.	**Regional/Adjacent Land Use:** ***No significant impact.*** • Compatible with regional/adjacent land uses.
	Consistency with Land Use Plans and Zoning: ***No significant impact.*** • Consistent with regional plans – BART Strategic Plan, Association of Bay Area Governments (ABAG) Strategic Plan, Plan Bay Area: Strategy for a Sustainable Region, and Bay Area Joint Policy Committee's FOCUS strategy. • Consistent with local plans – Concord Reuse Project Area Plan, Concord 2030 General Plan, Contra Costa (County) General Plan, and Pittsburg General Plan.	**Consistency with Land Use Plans and Zoning:** ***No significant impact.*** • Consistent with regional plans – BART Strategic Plan, ABAG Strategic Plan, Plan Bay Area: Strategy for a Sustainable Region, and Bay Area Joint Policy Committee's FOCUS strategy. • Consistent with local plans – Concord Reuse Project Area Plan, Concord 2030 General Plan, Contra Costa (County) General Plan, and Pittsburg General Plan. • Number of dwelling units would exceed total planned for the area and require amendment to Concord 2030 General Plan.	**Consistency with Land Use Plans and Zoning:** ***Significant adverse impact.*** • Not consistent with regional plans – BART Strategic Plan, ABAG Strategic Plan, Plan Bay Area: Strategy for a Sustainable Region, and Bay Area Joint Policy Committee's FOCUS strategy. • Not consistent with local plans – Concord Reuse Project Area Plan, Concord 2030 General Plan, Contra Costa (County) General Plan, and Pittsburg General Plan.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Socioeconomics and Environmental Justice	**Economy, Employment, and Income:** ***Significant beneficial impacts.*** • $6.3 billion in total construction expenditures. • Beneficial direct, indirect, and induced impacts from increased output, earnings, and employment in the area. • 18,933 jobs (direct, indirect, and induced) from construction expenditures. • 26,537 jobs (direct, indirect, and induced) at full build-out.	**Economy, Employment, and Income:** ***Significant beneficial impacts.*** • Greater total construction expenditures than Alternative 1. • Beneficial direct, indirect, and induced impacts from increased output, earnings, and employment in the area; slightly greater than Alternative 1 during construction phase. • More jobs from construction expenditures and at full build-out (direct, indirect, and induced) than Alternative 1.	**Economy, Employment, and Income:** ***No impact.*** • No new economic activity in the form of construction expenditures or increased output, earnings, and employment.
	Population***: No significant impact.*** • Construction of 12,200 residential units would increase population in City of Concord by 31,462 persons. Regional population growth forecasted from other factors not related to proposed action.	**Population*****: No significant impact.*** • Construction of 15,872 residential units would increase population in City of Concord by 40,309 persons. Regional population growth forecasted from other factors not related to proposed action.	**Population:** ***No impact.*** • No change in local population.
	Housing and Commercial Property: ***No significant impact.*** • 12,200 new residential units would increase housing stock consistent with anticipated local and regional demand. • Consistent with City of Concord Homeless Assistance Plan and affordable housing goals. • Short-term impact on commercial property market from addition of 6.1 million square feet of commercial space when much vacant commercial space is already available. Impacts expected to decrease as anticipated regional growth occurs.	**Housing and Commercial Property:** ***No significant impact.*** • 15,872 new residential units would increase housing stock consistent with anticipated local and regional demand. • Consistent with City of Concord Homeless Assistance Plan and affordable housing goals. • Short-term impact on commercial property market from addition of 6.1 million square feet of commercial space when much vacant commercial space is already available. Impacts expected to decrease as anticipated regional growth occurs.	**Housing and Commercial Property:** ***No impact.*** • No change in housing and commercial property markets.
	Taxes and Revenue: ***Significant beneficial impact.*** • $70 million increase in property tax and sales/use tax revenue from implementation of Alternative 1.	**Taxes and Revenue:** ***Significant beneficial impact.*** • Greater increase in property tax and sales/use tax revenue from implementation of Alternative 2 than from implementation of Alternative 1.	**Taxes and Revenue:** ***No impact.*** • No change in local government tax receipts.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Environmental Justice and Protection of Children: ***No disproportionately high or adverse effects.*** • Communities of concern exist within the study area. However, they would not experience disproportionately high or adverse human health or environmental effects as a result of Alternative 1. • No unique environmental health or safety issues would impact children in the affected communities.	**Environmental Justice and Protection of Children:** ***No disproportionately high or adverse effects.*** • Communities of concern exist within the study area. However, they would not experience disproportionately high or adverse human health or environmental effects as a result of Alternative 2. • No unique environmental health or safety issues would impact children in the affected communities.	**Environmental Justice and Protection of Children:** ***No impact.*** • No change from current conditions.
Air Quality	**Consistency with Planning Standards:** ***No significant impact.*** • Population increases would be consistent with current planning strategies. • The rate of increase in vehicle miles traveled (VMT) would be less than the rate of increase in population.	**Consistency with Planning Standards:** ***No significant impact.*** • Population increases would be consistent with current planning strategies. • The rate of increase in VMT would be less than the rate of increase in population.	**Consistency with Planning Standards:** ***No impact.*** • No new emissions would be generated by the proposed action, which would not occur. However, the improvements and mitigations planned for the City of Concord would not be implemented and, given the growth of population anticipated for the region, criteria pollutants and GHG emissions would continue to increase.
	Criteria Pollutants: ***Significant adverse impacts.*** • The Bay Area Air Quality Management District (BAAQMD) is in non-attainment with the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for ozone and particulate matter ($PM_{2.5}$) and in non-attainment with the CAAQS for PM_{10}. • Daily and annual emission estimates of criteria air pollutants from construction and operations would exceed BAAQMD significance thresholds. • Proposed action is exempt for Clean Air Act (CAA) Conformity Analysis. A Record of Non-Applicability (RONA) for CAA Conformity is provided in Appendix G.	**Criteria Pollutants:** ***Significant adverse impacts.*** • The BAAQMD is in non-attainment with the NAAQS and CAAQS for ozone and $PM_{2.5}$ and in non-attainment with the CAAQS for PM_{10}. • Daily and annual emission estimates of criteria air pollutants from construction and operations would exceed BAAQMD significance thresholds. • Proposed action is exempt for CAA Conformity Analysis. A RONA for CAA Conformity is provided in Appendix G.	**Criteria Pollutants:** ***No significant impact.*** • No new emissions would be generated by the proposed action, which would not occur. However, the improvements and mitigations planned for the City of Concord would not be implemented and, given the growth of population anticipated for the region, criteria pollutants would continue to increase.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	GHG Emissions: ***No significant impact.*** • Annual per capita greenhouse gas (GHG) emissions resulting from the implementation of Alternative 1 would be consistent with local and state GHG emission planning goals.	**GHG Emissions:** ***No significant impact.*** • Annual per capita GHG emissions resulting from the implementation of Alternative 2 would be higher than Alternative 1 but would be consistent with local and state GHG emission planning goals.	**GHG Emissions:** ***No significant impact.*** • No new emissions would be generated by the proposed action, which would not occur. However, the improvements and mitigations planned for the City of Concord would not be implemented and, given the growth of population anticipated for the region, GHG emissions would continue to increase.
	Mitigation: Planned mitigation measures defined in the Area Plan, and evaluated in the Area Plan Climate Action Plan (Area Plan CAP), would reduce the impacts of GHG and criteria pollutant emissions. Mitigation measures include transportation diversity and demand management; on-site photovoltaic installations; building design to meet energy efficiency standards; proper maintenance of equipment; and idling-reduction measures.	**Mitigation:** Planned mitigation measures defined in the Area Plan, and evaluated in the Area Plan CAP, would reduce the impacts of GHG and criteria pollutant emissions. Mitigation measures include transportation diversity and demand management; on-site photovoltaic installations; building design to meet energy efficiency standards; proper maintenance of equipment; and idling-reduction measures.	
Biological Resources	**Vegetation Communities and Habitats**: ***No significant impacts.*** <u>California Annual Grassland</u> • Permanent removal of existing vegetation communities and associated habitats, most of which is California annual grassland. Approximately 1,660 acres of grassland would be permanently impacted; however, approximately 2,045 acres of grassland habitat would remain on-site. • Potential adverse impacts on remaining grasslands due to invasive and non-native species would be addressed through implementation of the Area Plan, including the MMRP. • Temporary disturbance on areas to be maintained as conservation/open space during construction. <u>Coyote Brush Scrub/Coastal Sage Scrub</u> • Removal of 92 percent (4.6 acres) of this limited on-site habitat that does not provide suitable habitat for unique species.	**Vegetation Communities and Habitats**: ***No significant impacts.*** <u>California Annual Grassland</u> • Permanent removal of existing vegetation communities and associated habitats, most of which is California annual grassland. Approximately 1,593 acres of grassland would be permanently impacted; however, approximately 2,115 acres of grassland habitat would remain on-site. • Potential adverse impacts on remaining grasslands due to invasive and non-native species would be addressed through implementation of the Area Plan, including the MMRP. • Temporary disturbance on areas to be maintained as conservation/open space during construction. <u>Coyote Brush Scrub/Coastal Sage Scrub</u> • Removal of all 5 acres of this limited on-site habitat that does not provide suitable habitat for unique species.	**Vegetation Communities and Habitats:** ***No impact.*** Existing vegetation would be managed in accordance with the *Base Realignment and Closure Program Management Office Building Vacating, Facility Layaway, and Caretaker Maintenance Guidance* (Navy 2007).

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Oak Woodland/Savannah • Permanent loss of approximately 9 acres of this habitat type, leaving 92 percent (99 acres) undisturbed. • Proposed removal would trigger the City of Concord Heritage Tree Ordinance and developer would be required to comply with the mitigation provisions of this ordinance. Riparian Woodlands • Removal of 5 acres of this habitat type, leaving 84 percent (26 acres) undisturbed. • Loss of riparian woodlands along Willow Pass Creek would be minimized through the Section 401/404 process, and the establishment of a 300-foot riparian buffer along Mt. Diablo Creek would increase overall riparian woodland communities on-site. Wetlands and Non-Wetland Waters • Approximately 4.5 acres (net loss of 4.23 acres) of jurisdictional wetlands impacted; the non-jurisdictional wetlands and other waters consist of the golf course ponds and canals and will likely be avoided. (See Water Resources Section for discussion of avoidance and minimization measures.) Orchards and Plantations • Approximately 113 acres would be permanently removed from the site, leaving approximately 27 percent (43 acres) on-site.	Oak Woodland/Savannah • Permanent loss of approximately 9 acres of this habitat type, leaving 92 percent (99 acres) undisturbed. • Proposed removal would trigger the City of Concord Heritage Tree Ordinance and developer would be required to comply with the mitigation provisions of this ordinance. Riparian Woodlands • Removal of 5 acres of this habitat type, leaving 84 percent (26 acres) undisturbed. • Loss of riparian woodlands along Willow Pass Creek would be minimized through the Section 401/404 process, and the establishment of a 300-foot riparian buffer along Mt. Diablo Creek would increase overall riparian woodland communities on-site. Wetlands and Non-Wetland Waters • Approximately 4.85 acres of jurisdictional wetlands impacted; the non-jurisdictional wetlands and other waters consist of the golf course ponds and canals and will likely be avoided. (See Water Resources Section for discussion of avoidance and minimization measures.) Orchards and Plantations • Approximately 112 acres would be permanently removed from the site, leaving approximately 28 percent (44 acres) on-site.	

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Fish and Wildlife: ***No significant impacts.*** • Temporary impacts in the form of disturbance during construction may include displacement and minor impacts due to mortality of a small number of less-mobile species. • Loss of existing habitat due to permanent habitat conversion to developed areas but there is a regional availability of these habitats coupled with the preservation of the Conservation/Open Space District. • Loss of nesting areas for breeding birds, stopover areas for breeding birds, and stopover areas for migratory birds during construction would be minimized through the preservation of the conservation area and creation of a 300-foot buffer along Mt. Diablo Creek. • Potential introduction of non-native wildlife species. • Permanent loss of stream and wetland habitats would permanently displace aquatic biota; however, restoration of Mt. Diablo Creek and the creation of a 300-foot buffer would result in beneficial impacts.	**Fish and Wildlife**: ***No significant impacts.*** • Temporary impacts in the form of disturbance during construction may include displacement, and minor impacts due to mortality of a small number of less-mobile species. • Loss of existing habitat due to permanent habitat conversion to developed areas but there is a regional availability of these habitats coupled with the preservation of the Conservation/Open Space District. • Loss of nesting areas for breeding birds, stopover areas for breeding birds, and stopover areas for migratory birds during construction would be minimized through the preservation of the conservation area and creation of a 300-foot buffer along Mt. Diablo Creek. • Potential introduction of non-native wildlife species. • Permanent loss of stream and wetland habitats would permanently displace aquatic biota; however, restoration of Mt. Diablo Creek and the creation of a 300-foot buffer would result in beneficial impacts.	**Fish and Wildlife:** ***No impact.*** • Overall abundance of wildlife may increase because of the lack of human activity.
	Special Status Species: ***No significant impacts with mitigation.*** <u>California Red-Legged Frog – Federally Threatened</u> • Pursuant to the Endangered Species Act (ESA), reuse may affect and is likely to adversely affect this species. • Removal of up to 2,315 acres of this species' habitat, including direct impacts to non-breeding aquatic habitat, upland, and dispersal habitats. • Direct effects through harassment or mortality could occur during both construction and operation. • Implementation of conservation measures and compliance with the terms and conditions of the Section 7 Biological Opinion (BO) would ensure that Alternative 1 would not jeopardize the continued existence of this species and limit	**Special Status Species:** ***No significant impacts with mitigation.*** <u>California Red-Legged Frog – Federally Threatened</u> • Pursuant to the ESA, reuse may affect and is likely to adversely affect this species. • Removal of up to 2,234 acres of this species' habitat, including direct impacts to non-breeding aquatic habitat, upland, and dispersal habitats. • Direct effects through harassment or mortality could occur during both construction and operation. • Implementation of mitigation similar to that provided under Alternative 1 would ensure that Alternative 2 would not jeopardize the continued existence of this species and limit impacts to a non-significant level.	**Special Status Species:** ***No impact.*** • California red-legged frog and California tiger salamander populations would likely continue on the site.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	impacts to a non-significant level. <u>California Tiger Salamander – Federally Threatened</u> • Pursuant to the ESA, reuse may affect and is likely to adversely affect this species. • Total of up to 957 acres of direct California tiger salamander habitat impacts estimated, including approximately 19 acres of high-quality habitat, 119 acres of medium-quality habitat, and 819 acres of low-quality habitat. • Direct effects through harassment or mortality could occur during both construction and operation. • Implementation of conservation measures and compliance with the terms and conditions of the Section 7 mitigation in accordance with BO would ensure that Alternative 1 would not jeopardize the continued existence of this species and limit impacts to a non-significant level. <u>Alameda Whipsnake – Federally Threatened</u> • Pursuant to the ESA, reuse may affect and is likely to adversely affect this species. • No individuals have been previously documented on-site; however, suitable habitat exists. • Permanent adverse impacts on Alameda whipsnake habitat through loss of suitable habitat and direct mortality of individuals during construction and post-development recreational use. • Implementation of conservation measures and compliance with the terms and conditions of the Section 7 BO would ensure that Alternative 1 would not jeopardize the continued existence of this species and limit impacts to a non-significant level.	<u>California Tiger Salamander – Federally Threatened</u> • Pursuant to the ESA, reuse may affect and is likely to adversely affect this species. • Total of up to 898 acres of direct California tiger salamander habitat impacts estimated. • Direct effects through harassment or mortality could occur during both construction and operation. • Implementation of mitigation similar to that provided under Alternative 1 would ensure that Alternative 2 would not jeopardize the continued existence of this species and limit impacts to a non-significant level. <u>Alameda Whipsnake – Federally Threatened</u> • Pursuant to the ESA, reuse may affect and is likely to adversely affect this species. • No individuals have been previously documented on-site; however, suitable habitat exists. • Permanent adverse impacts on Alameda whipsnake habitat through loss of suitable habitat and direct mortality of individuals during construction and post-development recreational use. • Implementation of mitigation similar to that provided under Alternative 1 would ensure that Alternative 2 would not jeopardize the continued existence of this species and limit impacts to a non-significant level.	

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Mitigation for California Red-Legged Frog, California Tiger Salamander, and Alameda Whipsnake: Implementation of conservation measures and compliance with the terms and conditions of the Section 7 BO by the USACE, Navy, City of Concord, and EBRPD would ensure that Alternative 1 would not jeopardize the continued existence of these three species and would limit impacts to a non-significant level. <u>Bald and Golden Eagle</u> Potential impacts to individuals or their habitat during construction due to loss or disturbance of an active nest. Any future reuse would be required to avoid and minimize potential impacts on the species and compensate for impacts on the species' habitat per the protections afforded by the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), and California Department of Fish and Game (CDFG) Codes.	**Mitigation for California Red-Legged Frog, California Tiger Salamander, and Alameda Whipsnake:** Implementation of mitigation similar to that provided under Alternative 1 would ensure that Alternative 2 would not jeopardize the continued existence of these three species and would limit impacts to a non-significant level. <u>Bald and Golden Eagle</u> Potential impacts to individuals or their habitat during construction due to loss or disturbance of an active nest. Any future reuse would be required to avoid and minimize potential impacts on the species and compensate for impacts on the species' habitat per the protections afforded by the MBTA, BGEPA, and CDFG Codes.	
Cultural Resources	**Native American Resources:** ***No impact.*** • No Native American resources were identified at former NWS Concord by federally recognized Indian tribes consulted for the proposed action. Federally recognized Indian tribes consulted for the proposed action included the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians.	**Native American Resources:** ***No impact.*** • No Native American resources identified at former NWS Concord by federally recognized Indian tribes consulted for the proposed action. Federally recognized Indian tribes consulted for the proposed action included the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians.	**Native American Resources:** ***No impact.*** • No Native American resources were identified at former NWS Concord by federally recognized Indian tribes consulted for the proposed action. Federally recognized Indian tribes consulted for the proposed action included the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians.
	NRHP-Listed or -Eligible Historic Properties: ***No significant impacts with mitigation.*** • Pursuant to Section 106 of the National Historic Preservation Act (NHPA), reuse of former NWS Concord could have an adverse effect on historic properties resulting from disturbance or destruction of two National Register of Historic Places (NRHP)-eligible archaeological sites during implementation of Alternative 1.	**NRHP-Listed or -Eligible Historic Properties:** ***No significant impacts with mitigation.*** • Reuse of former NWS Concord could have an adverse effect on historic properties resulting from disturbance or destruction of two NRHP-eligible archaeological sites during implementation of Alternative 2.	**NRHP-Listed or -Eligible Historic Properties:** ***No impact.*** • The two NRHP-eligible archaeological sites at former NWS Concord would remain under federal ownership and Navy would continue to protect the sites under the No Action Alternative for the proposed action.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Mitigation: Implementation of mitigation in accordance with the Memorandum of Agreement (MOA) executed as part of Section 106 consultation would resolve adverse effects and significant impacts.	**Mitigation**: Implementation of mitigation similar to that provided under Alternative 1 would resolve adverse effects and significant impacts.	
Topography, Geology, and Soils	**Topography:** ***No significant impacts.*** • Below-grade development and other contour changes would be gradual.	**Topography:** ***No significant impacts.*** • Below-grade development and other contour changes would be gradual.	**Topography:** ***No impact.*** • No change from current conditions.
	Geology: ***No significant impacts with mitigation.*** • High potential for seismically induced ground shaking, ground failure, slope failure, and surface fault rupture due to location in a seismically active area. • The Clayton Section Greenville Fault located on the former NWS Concord is an active Holocene fault, but with no history of earthquakes. • **Mitigation**: For ground shaking and ground failure: buildings engineered/designed per the International Building Code. Design standards are not intended to fully mitigate for liquefaction, some ground failure, slope failure, and surface fault rupture.	**Geology:** ***No significant impacts with mitigation.*** • High potential for seismically induced ground shaking, ground failure, slope failure, and surface fault rupture due to location in a seismically active area. • The Clayton Section Greenville Fault located on the former NWS Concord is an active Holocene fault, but with no history of earthquakes. **Mitigation**: For ground shaking and ground failure: buildings engineered/designed per the International Building Code. Design standards are not intended to fully mitigate for liquefaction, some ground failure, slope failure, and surface fault rupture.	**Geology**: ***No impact.*** • No change from current conditions.
	Soils: ***No significant impacts with mitigation.*** • Loss of topsoil, exposure of old fill, and import of new fill during grading, excavation, and other construction activities. **Mitigation**: Erosion and sediment control measures in accordance with local and state laws, stormwater permit, and Construction General Permit would reduce impacts to less than significant.	**Soils**: ***No significant impacts with mitigation.*** • Loss of topsoil, exposure of old fill, and import of new fill during grading, excavation, and other construction activities. **Mitigation**: Erosion and sediment control measures in accordance with local and state laws, stormwater permit, and Construction General Permit would reduce impacts to less than significant.	**Soils**: ***No impact.*** • No change from current conditions.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Hazards and Hazardous Substances	**Environmental Restoration (ER) Program Sites:** ***No significant impacts.*** • Navy's ER Program sites are in various stages of completion depending on the site. • Navy compliance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process and adherence to federal laws and regulations would ensure that hazards to the public or environment from hazardous wastes/materials associated with former sites would be minimized to the extent practicable.	**ER Program Sites:** ***No significant impacts.*** • Navy's ER Program sites are in various stages of completion depending on the site. • Navy compliance with the CERCLA process and adherence to federal laws and regulations would ensure that hazards to the public or environment from hazardous wastes/materials associated with former sites would be minimized to the extent practicable.	**ER Program Sites:** ***No significant impacts.*** • Navy's ER Program sites are in various stages of completion depending on the site. Navy compliance with the CERCLA process and adherence to federal laws and regulations would ensure that hazards to the public or environment from hazardous wastes/materials associated with site cleanup would be minimized to the extent practicable.
	Solid Waste Management Unit (SWMU) Sites: ***No significant impacts.*** • All SWMU sites at former NWS Concord have been recommended for no further action, except for four sites already transferred to the Installation Restoration Program (IRP). • Compliance with the Resource Conservation and Recovery Act (RCRA) process and adherence to federal laws and regulations during construction and operation would ensure that hazards to the public or environment from hazardous wastes/materials associated with former sites would be minimized to the extent practicable.	**SWMU Sites:** ***No significant impacts.*** • All SWMU sites at former NWS Concord have been recommended for no further action, except for four sites already transferred to the IRP. • Compliance with the RCRA process and adherence to federal laws and regulations during construction and operation would ensure that hazards to the public or environment from hazardous wastes/materials associated with former sites would be minimized to the extent practicable.	**SWMU Sites:** ***No impact.*** • All SWMU sites at former NWS Concord have been recommended for no further action, except for four sites already transferred to the IRP.
	Radiological Sites: ***No significant impacts.*** • Radiation surveys are ongoing at sites with low contamination potential as identified by historical radiological assessment. • Compliance with the Atomic Energy Act and the CERCLA process, and adherence to federal laws and regulations during construction and operation, would ensure that hazards to the public or environment from radioactive wastes/materials associated with former sites would be minimized to the extent practicable.	**Radiological Sites:** ***No significant impacts.*** • Radiation surveys are ongoing at sites with low contamination potential as identified by historical radiological assessment. • Compliance with the Atomic Energy Act and the CERCLA process, and adherence to federal laws and regulations during construction and operation, would ensure that hazards to the public or environment from radioactive wastes/materials associated with former sites would be minimized to the extent practicable.	**Radiological Sites:** ***No significant impacts.*** • Site evaluation would continue. • Compliance with the Atomic Energy Act and the CERCLA process, and adherence to federal laws and regulations, would ensure that hazards to the public or environment from radioactive wastes/materials associated with site cleanup would be minimized to the extent practicable.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Other Hazardous Waste/Materials Management: ***No significant impact.*** • Hazardous wastes would be generated and hazardous materials (e.g., petroleum and other products in belowground and aboveground storage tanks, asbestos, lead-based paint (LBP), polychlorinated biphenyl (PCBs), and radioactive materials) would be handled/used during construction and operation activities. • Compliance with regulatory framework would minimize hazards to the public and environment.	**Other Hazardous Waste/Materials Management:** ***No significant impact.*** • Hazardous wastes would be generated and hazardous materials (e.g., petroleum and other products in belowground and aboveground storage tanks, asbestos, LBP, PCBs, and radioactive materials) would be handled/used during construction and operation activities. • Compliance with regulatory framework would minimize hazards to the public and environment.	**Other Hazardous Waste/Materials Management:** ***No significant impact.*** • Navy would continue to generate small quantities of hazardous waste and use small quantities of hazardous materials to conduct caretaker activities. • Asbestos and LBP would remain in on-site buildings. • Compliance with regulatory framework would minimize hazards to the public and environment.
Noise	**Construction Noise:** ***No significant impacts with mitigation.*** • Significant short-term noise impacts on nearby receptors, especially on the western boundary of the property, from the use of heavy equipment and vehicle traffic during construction. **Mitigation**: City of Concord noise control measures for new developments and construction would reduce impacts.	**Construction Noise:** ***No significant impacts with mitigation.*** • Significant short-term noise impacts on nearby receptors, especially on the western boundary of the property, from the use of heavy equipment and vehicle traffic during construction. **Mitigation**: City of Concord noise control measures for new developments and construction would reduce impacts.	**Construction Noise:** ***No impact.*** • No change from current conditions.
	Operational Noise*: No significant impacts with mitigation*. • Overall increase in ambient noise level from vehicular/rail traffic and operation of the commercial, industrial, recreational, and residential land uses of the development. • Long-term increase in traffic noise of generally 1 to 3 A-weighted decibels (dBA) at nearby receptors. The 1 dBA increase would not be perceptible. • Increase in noise level of 7 dBA near Denkinger Road at site boundary. • Short-term moderate impact from increase in noise levels from certain recreational uses. **Mitigation**: City of Concord noise control measures in MMRP such as noise barriers, low-noise road surfaces, and acoustical analyses would reduce impacts.	**Operational Noise*: No significant impacts with mitigation***. • Overall increase in ambient noise level from vehicular/rail traffic and operation of the commercial, industrial, recreational, and residential land uses of the development. • Long-term increase in traffic noise of generally 1 to 3 dBA at nearby receptors. The 1 dBA increase would not be perceptible. • Increase in noise level of 7 dBA near Denkinger Road at site boundary. • Short-term moderate impact from increase in noise levels from certain recreational uses. **Mitigation**: City of Concord noise control measures in MMRP such as noise barriers, low-noise road surfaces, and acoustical analyses would reduce impacts.	**Operational Noise:** ***No impact.*** • No change from current conditions.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Public Services	**Educational Facilities:** ***No significant impacts.*** • Population increase of 31,462 residents would result in 4,924 children requiring educational services. • Reuse would include educational facilities adequate for the demand, in compliance with Concord 2030 General Plan. • Property taxes and other funding sources would support development of the schools.	**Educational Facilities:** ***No significant impacts.*** • Population increase of 40,309 residents would result in 6,309 children requiring educational services. • Reuse would include educational facilities adequate for the demand, in compliance with Concord 2030 General Plan. • Property taxes and other funding sources would support development of the schools.	**Educational Facilities:** ***No impact.*** • No change from current conditions.
	Public Safety, Emergency, and Health Care Facilities: ***No significant impacts.*** • Population increase of 31,462 residents and additional workforce would result in need for additional public safety, emergency, and health care facilities. • Police staffing and equipment would need to be increased at existing City of Concord Police Department facilities. • Fire department staffing and equipment would need to be increased and if it is not feasible to rehabilitate the Inland Firehouse, two new fire stations will be constructed. • New First Responder Training Center planned under Alternative 1 would support city and county public safety departments. • Property taxes and other funding sources would support the increased public safety and emergency facilities. • Additional health care needs would be adequately accommodated by existing hospitals and medical facilities.	**Public Safety, Emergency, and Health Care Facilities:** ***No significant impacts.*** • Population increase of 40,309 residents and additional workforce would result in need for additional public safety, emergency, and health care facilities. • Police staffing and equipment would need to be increased at existing City of Concord Police Department facilities. • Fire department staffing and equipment would need to be increased and if it is not feasible to rehabilitate the Inland Firehouse, two new fire stations will be constructed. • No First Responder Training Center is planned under Alternative 2 to support city and county public safety departments. • Property taxes and other funding sources would support the increased public safety and emergency facilities. • Additional health care needs would be adequately accommodated by existing hospitals and medical facilities.	**Public Safety, Emergency, and Health Care Facilities:** ***No impact.*** • No change from current conditions.
	Open Space, Parks, and Recreation: ***Significant beneficial impacts.*** • Population increase of 31,462 residents and additional workforce would result in need for additional recreational space and facilities. • Alternative 1 provides for 786 acres of greenways, citywide parks, and active recreational areas in the reuse area. • 2,537 acres of the former NWS Concord would be designated as a regional park for passive	**Open Space, Parks, and Recreation:** ***Significant beneficial impacts*** • Population increase of 40,309 residents and additional workforce would result in need for additional recreational space and facilities. • Alternative 2 provides for 786 acres of greenways, citywide parks, and active recreational areas in the reuse area. • 2,537 acres of the former NWS Concord would be designated as a regional park for passive	**Open Space, Parks, and Recreation:** ***No impact.***

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	recreation and open space uses. • Ratio of dedicated parkland space to residents would exceed Concord 2030 General Plan requirements, leading to a long-term beneficial impact.	recreation and open space uses. • Ratio of dedicated parkland space to residents would exceed Concord 2030 General Plan requirements, leading to a long-term beneficial impact.	
Transportation, Traffic and Circulation	**Traffic Volumes and Level of Service (LOS) on Surrounding Roadway Network: *Significant adverse impacts.*** • New roadways on property and connections with existing network. • Projected to add 203,205 daily trips to the new and existing road network. • Twelve intersections, two roadway segments, four freeway segments, and 16 freeway ramps in study area would exceed performance standards. • One roadway segment, two freeway segments, and six freeway ramps that exceed performance standards are not considered adverse impacts requiring mitigation because the volume/capacity v/c ratio under Alternative 1 is the same as or lower than that of the No Action Alternative. • Minor increase in traffic on roadways adjacent to property during construction.	**Traffic Volumes and LOS on Surrounding Roadway Network: *Significant adverse impacts.*** • New roadways on property and connections with existing network. • Projected to add 229,301 daily trips to the new and existing road network. • Thirteen intersections, two roadway segments, four freeway segments, and 16 freeway ramps in study area would exceed performance standards. • One roadway segment, one freeway segment, and four freeway ramps that exceed performance standards are not considered adverse impacts requiring mitigation because the v/c ratio under Alternative 2 is the same as or lower than that of the No Action Alternative. • Minor increase in traffic on roadways adjacent to property during construction.	**Traffic Volumes and LOS on Surrounding Roadway Network: *Significant adverse impact.*** • ***Background growth will lead to significant adverse impacts.*** Nine intersections, one roadway segment, four freeway segments, and 13 freeway ramps in study area would exceed performance standards.
	Mitigation: Traffic demand management (TDM) strategies, site management plans, implementation of minimization and mitigation measures identified in the Area Plan would reduce impacts.	**Mitigation**: TDM strategies, site management plans, implementation of minimization and mitigation measures identified in the Area Plan would reduce impacts.	**Mitigation**: None proposed.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Utilities and Infrastructure	**Water:** ***No significant impact.*** <u>Water Supply and Demand</u> • Estimated demand of 3.2 million gallons per day (mgd) at full build-out, excluding irrigational needs. • Development would fall within the level of growth assumed for the Contra Costa Water District (CCWD) service area. <u>Water Treatment and Distribution</u> • Moderate impact on Randall-Bold Water Treatment Plant (WTP) capacity because upgrades would be needed to serve new development. • Moderate impact on distribution facilities; reuse would include construction of a new water distribution system comprised of both potable water and recycled water components.	**Water:** ***No significant impact.*** <u>Water Supply and Demand</u> • Estimated demand of 3.5 mgd at full build-out, excluding irrigational needs. • Due to similarities to Alternative 1, development would fall within the level of growth assumed for the CCWD service area. <u>Water Treatment and Distribution</u> • Moderate impact on Randall-Bold WTP capacity because upgrades would be needed to serve new development under Alternative 2. • Moderate impact on distribution facilities; reuse would include construction of a new water distribution system comprised of both potable water and recycled water components.	**Water:** ***No impact.*** • No change from current conditions.
	Stormwater and Collection Systems: ***No significant impacts.*** • Reuse would result in a total of approximately 1,442 acres of impervious area, an increase of 301 percent above existing conditions. • Reuse would require new stormwater infrastructure to manage increased flows. • Compliance with regulatory requirements and permit conditions, including: Compliance with local, state, and federal laws regarding stormwater management, including the General Construction Permit, Section 86-39 of the City of Concord's Stormwater Management and Discharge Control Ordinance, and USACE- and Environmental Protection Agency (EPA)-issued regulations governing compensatory mitigation for impacts on streams (40 CFR Part 230) as part of the Section 401/404 permitting process would reduce impacts.	**Stormwater and Collection Systems:** ***No significant impacts.*** • Reuse would result in a total of approximately 1,369 acres of impervious area, an increase of 281 percent above existing conditions. • Reuse would require new stormwater infrastructure to manage increased flows. • Compliance with regulatory requirements and permit conditions, including: Compliance with local, state, and federal laws regarding stormwater management, including the General Construction Permit, Section 86-39 of the City of Concord's Stormwater Management and Discharge Control Ordinance, and USACE- and EPA-issued regulations governing compensatory mitigation for impacts on streams (40 CFR Part 230) as part of the Section 401/404 permitting process would reduce impacts.	**Stormwater and Collection Systems:** ***No impact.*** • No change from current conditions.

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Sanitary Collection and Treatment Systems: ***No significant impacts.*** • Minor impact on Central Contra Costa Sanitary District (CCCSD) Wastewater Treatment Plant (WWTP); estimated demand of approximately 3.7 mgd at full build-out would fall within projected future effluent discharge limitations. • Moderate impact on collection system because upgrades to existing City of Concord and CCCSD collection systems are possible.	**Sanitary Collection and Treatment Systems:** ***No significant impacts.*** • Minor impact on CCCSD WWTP; estimated demand of approximately 5.5 mgd at full build out would fall within projected future effluent discharge limitations. • Moderate impact on collection system because upgrades to existing City of Concord and CCCSD collection systems are possible.	**Sanitary Collection and Treatment Systems:** ***No impact.***

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Other Utilities and Infrastructure: ***No significant impacts***	**Other Utilities and Infrastructure:** ***No significant impacts***	**Other Utilities and Infrastructure:** ***No impact.***
	• Solid Waste and Recycling Management: Fifty percent of solid waste generated from construction and operation activities would be required to be recycled or otherwise diverted from landfills in accordance with state law. • Approximately 90,500 tons of construction and demolition (C&D) waste from construction activities would require landfilling following applicable recycling measures. • Approximately 25,000 tons per year of non-C&D solid waste from operation of the new development (residential, commercial, and industrial activities) would require landfilling following applicable recycling measures. • Due to long build-out period, local landfills are projected to have the capacity to accommodate the waste. • Electricity: Future coordination with Pacific Gas and Electric (PG&E) is needed. New electric connections/infrastructure required, including an on-site 5-acre distribution substation. • Natural Gas: Sufficient capacity in the adjacent existing gas transmission systems to serve new development. New gas connections/distribution system required, including 1-acre gas regulating station. • Telecommunications: Additional services and the development of new facilities to service new development would be required.	• Solid Waste and Recycling Management: Fifty percent of solid waste generated from construction and operation activities would be required to be recycled or otherwise diverted from landfills in accordance with state law. • Approximately 97,000 tons of C&D waste from construction activities would require landfilling following applicable recycling measures. • Approximately 28,000 tons per year of non-C&D solid waste from operation of the new development (residential, commercial, and industrial activities) would require landfilling following applicable recycling measures. • Due to long build-out period, local landfills are projected to have the capacity to accommodate the waste. • Electricity: Future coordination with PG&E is needed. New electric connections/infrastructure required, including an on-site 5-acre distribution substation. • Natural Gas: Sufficient capacity in the adjacent existing gas transmission systems to serve new development. New gas connections/distribution system required, including 1-acre gas regulating station. Telecommunications: • Additional services and the development of new facilities to service new development would be required.	

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Visual Resources and Aesthetics	**Scenic Quality and Views:** ***No significant impacts with mitigation.*** • Potential impacts were assessed at a programmatic level because specific plans for development have not yet been approved by the City of Concord. • Scenic quality contrast between current conditions and proposed development would range from none to strong, depending on the key observation point (KOP). • Views of hills, ridgelines, and open space could be substantially changed from some KOPs. **Mitigation**: City of Concord mitigation measures such as light-reducing measures, and light-controlling measures required for development plans would reduce impacts.	**Scenic Quality and Views:** ***No significant impacts with mitigation.*** • Potential impacts were assessed at a programmatic level because specific plans for development have not yet been approved by the City of Concord. • Scenic quality contrast between current conditions and proposed development would range from none to strong, depending on the KOP. • Views of hills, ridgelines, and open space could be substantially changed from some KOPs. **Mitigation**: City of Concord mitigation measures such as light-reducing measures, and light-controlling measures required for development plans would reduce impacts.	***No impact.***

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Water Resources	**Surface Water:** ***No significant impacts.*** • Disturbance of Mt. Diablo Creek and its riparian corridor. • Temporary increase in erosion and sedimentation rates. • Drainage patterns on the site could be temporarily altered. • Temporary impact associated with new culvert installation and permanent loss of natural drainage course. • Approximately 2.43 acres of jurisdictional other waters impacted through fill because of the development footprint; net loss of 1.43 acres. • Total impervious surface area of 1,442 acres, resulting in increase in quantity of sheet flow (stormwater drainage) and higher peak stream discharges. • Compliance with local, state, and federal laws regarding stormwater management, including the General Construction Permit and Section 86-39 of the City of Concord's Stormwater Management and Discharge Control Ordinance will avoid or minimize impacts on surface waters. **Mitigation**: The USACE- and EPA-issued regulations governing compensatory mitigation for impacts to streams (40 CFR Part 230) as part of the Section 401/404 permitting process would reduce impacts.	**Surface Water:** ***No significant impacts.*** • Disturbance of Mt. Diablo Creek and its riparian corridor. • Temporary increase in erosion and sedimentation rates. • Drainage patterns on the site could be temporarily altered. • Temporary impact associated with new culvert installation and permanent loss of natural drainage course. • Approximately 2.43 acres of jurisdictional other waters impacted through fill because of the development footprint; net loss of 1.43 acres. • Total impervious surface area of 1,369 acres, resulting in increase in quantity of sheet flow (stormwater drainage) and higher peak stream discharges. • Compliance with local, state, and federal laws regarding stormwater management, including the General Construction Permit and Section 86-39 of the City of Concord's Stormwater Management and Discharge Control Ordinance will avoid or minimize impacts on surface waters. **Mitigation**: The USACE- and EPA-issued regulations governing compensatory mitigation for impacts to streams (40 CFR Part 230) as part of the Section 401/404 permitting process would reduce impacts.	**Surface Water:** ***No impact.***

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Wetlands: ***No significant impacts with mitigation.*** • Impacts from direct filling or alteration of hydrology. • Approximately 4.5 acres (net loss of 4.23 acres) of jurisdictional wetlands impacted; the non-jurisdictional wetlands and other waters consist of the golf course ponds and canals and will likely be avoided. **Mitigation**: Compliance with Clean Water Act (CWA) Section 404 and USACE and EPA regulations governing compensatory mitigation for impacts to wetlands (40 CFR Part 230), in coordination with the USACE as part of the City of Concord's site-wide Section 404 Individual Permit or those permits secured by future developers for the Area Plan would reduce impacts. Proposed mitigation includes the creation of a 0.59 acre wetland in conjunction with the expansion and enhancement of an existing salamander and frog breeding pond, and the potential creation of up to 10 acres of wetlands at a spring in the vicinity of the old airfield.	**Wetlands:** ***No significant impacts with mitigation.*** • Impacts from direct filling or alteration of hydrology. • Approximately 4.85 acres of jurisdictional wetlands impacted; the non-jurisdictional wetlands and other waters consist of the golf course ponds and canals and will likely be avoided. **Mitigation**: Compliance with CWA Section 404 and USACE and EPA regulations governing compensatory mitigation for impacts to wetlands (40 CFR Part 230), in coordination with the USACE as part of the City of Concord's site-wide Section 404 Permit or those permits secured by future developers for the Area Plan would reduce impacts.	**Wetlands:** ***No impact.***
	Groundwater: ***No significant impact.*** • Low likelihood of impacts associated with temporary construction activities that could extend below ground surface to a depth that would directly impact the underlying water table. • Increase in imperviousness of site could result in less infiltration of rainfall and limit the potential for groundwater recharge. • If necessary, use of standard dewatering techniques; compliance with storm water permits and management plans and erosion and sediment control plans as required by the San Francisco Bay Regional Water Quality Control Board and other agencies would reduce impacts.	**Groundwater:** ***No significant impact.*** • Low likelihood of impacts associated with temporary construction activities that could extend below ground surface to a depth that would directly impact the underlying water table. • Increase in imperviousness of site could result in less infiltration of rainfall and limit the potential for groundwater recharge. • If necessary, use of standard dewatering techniques; compliance with storm water permits and management plans and erosion and sediment control plans as required by the San Francisco Bay Regional Water Quality Control Board and other agencies would reduce impacts.	**Groundwater:** ***No impact.***

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Water and Groundwater Quality: ***No significant impacts.*** • Clearing and grading activities would cause short-term exposure of soils, leading to erosion and sedimentation. • Temporary impacts during construction and implementation of the in-stream conceptual restoration design concepts due to short-term increases in sediment loads and turbidity in Mt. Diablo Creek. • Additional impervious surface area could lead to accumulation of pollutants picked up by stormwater flows and additional sources of non-point pollution reaching receiving waters such as Mt. Diablo Creek. • Proposed new development would be located within a highly developed area; stormwater runoff would be collected into a stormwater management system. • Compliance with local and state permit requirements, including the General Construction Permit, City of Concord's Stormwater Management and Discharge Control Ordinance and Grading and Erosion Control Ordinance, and CWA Section 404 permit and Section 401 Water Quality Certification would reduce impacts.	**Water and Groundwater Quality:** ***No significant impacts.*** • Clearing and grading activities would cause short-term exposure of soils, leading to erosion and sedimentation. • Temporary impacts during construction and implementation of the in-stream conceptual restoration design concepts due to short-term increases in sediment loads and turbidity within Mt. Diablo Creek. • Additional impervious surface area could lead to accumulation of pollutants picked up by stormwater flows and additional sources of non-point pollution reaching receiving waters such as Mt. Diablo Creek. • Proposed new development would be located within a highly developed area; stormwater runoff would be collected into a stormwater management system. • Compliance with local and state permit requirements, including the General Construction Permit, City of Concord's Stormwater Management and Discharge Control Ordinance and Grading and Erosion Control Ordinance, and CWA Section 404 permit and Section 401 Water Quality Certification would reduce impacts.	**Water and Groundwater Quality:** ***No impact.***
	Floodplains: ***No significant impacts.*** • Approximately 7.3 acres of Zone A floodplain and 1.3 acres of Zone AE floodplain would be impacted by road construction. • Approximately 57.7 acres of 100-year floodplains would be impacted by implementation of Alternative 1. • A Federal Emergency Management Agency (FEMA) hydraulic model of Mt. Diablo Creek would be developed and used to delineate and map the 100-year floodplain within the former NWS Concord.	**Floodplains**: ***No significant impacts.*** • Approximately 8.3 acres of Zone A floodplain and 1.3 acres of Zone AE floodplain would be impacted by road construction. • Approximately 57 acres of 100-year floodplains would be impacted by implementation of Alternative 2. • FEMA hydraulic model of Mt. Diablo Creek would be developed and used to delineate and map the 100-year floodplain within the former NWS Concord.	**Floodplains:** ***No impact.***

Table ES-2 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Mitigation: Once delineation of floodplains within the former NWS Concord is completed, comparison to modeled post-development hydrologic and hydraulic conditions would be conducted to determine whether any modifications to the floodplain would result. City of Concord will require a Conditional Letter of Map Revisions from FEMA to demonstrate that 100-year design flow is contained within Mt. Diablo Creek. Conceptual design elements for Mt. Diablo Creek and 40-acre detention basin would address 100-year flood event would reduce impacts.	**Mitigation**: Once delineation of floodplains within the former NWS Concord is completed, comparison to modeled post-development hydrologic and hydraulic conditions would be conducted to determine whether any modifications to the floodplain would result. City of Concord will require a Conditional Letter of Map Revisions from FEMA to demonstrate that 100-year design flow is contained within Mt. Diablo Creek. Conceptual design elements for Mt. Diablo Creek and 40-acre detention basin would address 100-year flood event would reduce impacts.	

This page intentionally left blank.

1 Purpose and Need

1.1 Introduction

This Environmental Impact Statement (EIS) evaluates the U.S. Department of the Navy's (Navy's) proposal to dispose of surplus property at the former Naval Weapons Station Seal Beach Detachment Concord (NWS Concord), in the City of Concord, Contra Costa County, California, and the potential subsequent reuse of the property by the local community.

The Navy closed the former NWS Concord on September 30, 2008, in accordance with Public Law (P. L.) 101-510, the Defense Base Closure and Realignment Act of 1990, as amended in 2005 (DBCRA). NWS Concord included two major land holdings: (1) the Tidal Area along the Suisun Bay; and (2) the Inland Area. Approximately 60 percent of the land area has been transferred to other Department of Defense (DOD) and federal agencies. This includes the entirety of the Tidal Area along with 115 acres of the Inland Area that was transferred to the U.S. Army and approximately 59 acres of the Inland Area that was transferred to the U.S. Coast Guard. The remaining 5,028 acres of the Inland Area (subsequently revised to 4,972 acres of property) was determined surplus to the needs of the federal government on March 6, 2007 (72 *Federal Register* [FR] 9935). The Navy, in accordance with the DBCRA, is now preparing for disposal of the surplus property.

Base closure under the DBCRA includes multiple steps from the decision to close an installation to the final disposal or transfer of surplus property from federal ownership. Under the DBCRA, a Local Redevelopment Authority (LRA) is designated by the local community and recognized by the Secretary of Defense as the entity responsible for developing the reuse plan for a former installation or for directing the implementation of such a plan. On February 7, 2006, the City of Concord was designated as the LRA for redevelopment of the former NWS Concord (71 FR 6274).

The City of Concord initiated a community planning process in 2006 and evaluated seven alternatives for reuse of the surplus property. The city evaluated these alternatives in a Draft Environmental Impact Report (DEIR), prepared in compliance with the California Environmental Quality Act (CEQA). The DEIR was initially published in 2008 and underwent extensive public review and comment. In response to comments received, the city eliminated all but two reuse alternatives. Those two alternatives, called "Clustered Villages" and "Concentration and Conservation," were subjected to further environmental review in a second DEIR and a Final EIR (FEIR). The Concord city council adopted the preferred, Clustered Villages alternative and certified the FEIR, Findings of Significance, and a Mitigation Monitoring and Reporting Plan (MMRP) in 2010.[1] The "Clustered Villages" approach envisioned in the adopted Reuse Plan included a series of villages connected by transit, allowing for a diverse development mix of residential, commercial, industrial, and recreational land uses, and conservation open space. In 2012, the City of Concord refined the Reuse Plan, adopted the resulting *Concord Reuse Project (CRP) Area Plan* (the Area Plan, hereafter), certified an addendum to the FEIR, and amended Concord's citywide Concord 2030 General Plan (City of Concord 2012) to include the Area Plan. By incorporating

[1] Measures identified in the certified FEIR and its addendum and the associated Mitigation Monitoring and Reporting Plan that will avoid or mitigate potential environmental impacts are the responsibility of future developers or owners of the property. Compliance with these measures would take place under the jurisdiction and review of the City of Concord and federal, state, and local agencies with regulatory authority over and responsibility for such resources.

the Area Plan into the General Plan, the community's state-required "constitution for future development," the City of Concord institutionalized its policies and guidance for reuse of the former NWS Concord. As such, the City of Concord has completed the environmental impact analysis of its local reuse planning processes under CEQA to support implementation of the Area Plan.

Prior to disposal of surplus property, the Navy must complete the federal environmental review process required by the National Environmental Policy Act of 1969 (NEPA), as amended (42 United States Code [U.S.C.] 4321-4370f); the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508); and Navy procedures for implementing NEPA (32 CFR 775) to evaluate the potential environmental consequences of disposal and reasonably foreseeable impacts associated with the reuse of the property. Preparation of this EIS will support the Navy's decision-making on disposal of the surplus property.

After completing the EIS and issuing a decision on the disposal of surplus property in a Record of Decision (ROD), the Navy may convey the surplus property.

1.2 The NEPA Process

Under NEPA, an EIS is prepared for those federal actions that may significantly affect the quality of the human environment. The EIS is intended to help public officials make decisions that are based on an understanding of environmental consequences and take actions that protect, restore, and enhance the environment (40 CFR 1500.1). NEPA provides the means to carry out these goals by:

- Mandating that every federal agency prepare a detailed statement of the effects of "major Federal actions significantly affecting the quality of the human environment;"
- Establishing the need for agencies to consider alternatives to those actions;
- Requiring the use of an interdisciplinary process to develop alternatives and analyze environmental effects;
- Requiring that each agency consult with and obtain comments from any federal agency that has jurisdiction, either by law or special expertise, with respect to any environmental impact involved; and
- Requiring that detailed statements, comments, and views of the appropriate federal, state, tribal, and local agencies be made available to the public.

The Navy is the lead agency for the proposed action, with the U.S. Army Corps of Engineers (USACE) serving as a cooperating agency for the preparation of this EIS.

The decision to close the former NWS Concord is exempt from the requirements of NEPA and will not be part of the evaluation in this EIS. Similarly, transfer of property to other federal agencies was evaluated as part of previous NEPA assessments and will not be included in this EIS analysis. The Navy's disposal of the surplus former NWS Concord property into non-federal ownership and the subsequent reuse of the property following disposal by the Navy is the focus of the EIS.

The NEPA process also includes opportunities for public involvement and review of the EIS. Public involvement opportunities are discussed in Section 1.9.

1.3 Purpose and Need for Action

The purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord during reuse

planning that took place between 2008 and 2012. The need for the proposed action is to comply with the DBCRA and to provide the local community the opportunity for economic development and job creation.

1.4 Project Area Description

The surplus property of the former NWS Concord is located entirely within the City of Concord, Contra Costa County, California (see Figure 1-1). In March 2007, when the former NWS Concord was declared surplus, the total area was determined to be approximately 5,028 acres. In addition to the Inland Area, the total surplus property acreage included approximately 6 acres of noncontiguous property 500 feet to the west of the installation and west of Olivera Road. However, further analysis of the property records for the former NWS Concord since the Draft EIS was released resulted in a correction to the total acreage of the surplus property, which is currently estimated to be 4,972 acres[2]. The previous survey had included a portion of the State Route (SR) 4/Port Chicago Highway right-of-way along the northern border of the property, and part of the canal system owned by the U.S. Bureau of Reclamation, which traverses the property and is not part of the Navy's surplus property. The total area of the surplus property, which will be used throughout the Final EIS, is 4,972 acres.

As described further in Chapter 2, the total area being evaluated for disposal is smaller than that of the Area Plan (5,046 acres) because the city's plan included some areas, such as the North Concord/Martinez Bay Area Rapid Transit (BART) Station and the Diablo Creek Golf Course, that are not part of the Navy's surplus property. However, all impacts related to disposal and reuse of the NWS Concord will be evaluated in this EIS.

The former NWS Concord is located approximately 35 miles northeast of the City of San Francisco. The unincorporated communities of Clyde and Bay Point are located to the north, the City of Pittsburg is located to the east, and the City of Clayton is located to the southeast. The property is surrounded primarily by low-density residential development within the City of Concord consisting of detached single-family homes, neighborhood retail, schools, and parks. The Pittsburg Bay Point line of the BART system and SR 4/Port Chicago Highway cross the northern end of the property, with the North Concord/Martinez BART Station adjacent to the northwestern edge of the property.

Most of the surplus property is within a valley that extends from Mt. Diablo to the Suisun Bay. Mt. Diablo Creek crosses the length of the site from southeast to northwest. West of Mt. Diablo Creek, the site is relatively flat, with its lowest point at approximately 30 feet above mean sea level (amsl). East of Mt. Diablo Creek, flat grasslands rise to form the Los Medanos Hills. The site's highest point, which is east of Mt. Diablo Creek and on the ridgeline of the Los Medanos Hills, is approximately 1,130 feet amsl. The 6-acre parcel that is non-contiguous to the installation consists of Little League baseball fields that are leased from the Navy and maintained by the Concord Little League. A general inventory of the existing development located at the former NWS Concord is provided in Table 1-1.

[2] This Final EIS is intended to address disposal of all Navy surplus property, and the acreages cited here are provided as estimates for purposes of analysis.

Table 1-1 NWS Concord Existing Development Inventory

Structure	Number	Approximate Total Area/Length
Explosive ordnance magazines	217	879,000 SF
Maintenance, storage, administrative, and miscellaneous structures	77	296,000 SF
Railroad track	NA	55 miles
Airfield runway and other paved areas (roads, parking lots, etc.)	NA	781,519 SY
Utilities: telephone, electric, water, sewer, gas, storm drainage, and fire protection systems	NA	N/A

Source: 72 FR 9935

Key:
N/A = Not available
SF = Square feet
SY = Square yards

1.5 History of Former NWS Concord

NWS Concord was one of the oldest naval ordnance[3] bases and for a time was the Navy's primary ammunition port on the Pacific Coast. From its establishment in 1942 during World War II through its closure in 2008, the mission of NWS Concord had been to receive, store, and issue ammunition, explosives, and technical ordnance material. Initially constructed along the Suisun Bay in 1942 as the U.S. Naval Magazine, Port Chicago, the Concord facility was a major munitions depot for the Pacific Coast during World War II. High-explosive magazines, gun ammunition magazines, a weapons laboratory, military barracks, administration buildings, a rail system, and two runways were built at the site during World War II. In 1944, the Navy acquired more land and expanded the station inland. Administration and support functions were consolidated in the Inland Area; however, its primary use was storage of ammunition. A road and rail corridor adjacent to Port Chicago Highway linked the Inland Area to the original port location along the Suisun Bay (the Tidal Area).

The Concord facility continued to be the principal ammunition depot for the Pacific Coast through the Korean and Vietnam wars. Depots at Mare Island and Tiburon were consolidated with the Concord facility, which became the Naval Ammunition Depot (NAD) Concord in 1957. The Navy acquired additional land area, and the facility grew. With an increased role in inspections and monitoring, and with more advanced weapons systems, NAD Concord was renamed NWS Concord in 1963, at which time it supplied 95 percent of the ammunition to all the services in the Pacific area (Herbert and Allen 2013).

NWS Concord's mission activities, such as supplying ammunition, loading and unloading ships, re-arming ships, and maintaining and assembling missiles, continued until the end of the Cold War in 1989. The volume of ammunition processed and stored at NWS Concord declined steadily after a peak attained during the Vietnam War. In 1998, NWS Concord became a detachment of NWS Seal Beach in Orange County, California, and by 1999 a minimal contingent of military personnel was stationed at NWS Concord. In 1999, the Navy formally placed the facility into a reduced operational status, and in 2005 NWS Concord was designated for closure by the Defense Base Closure and Realignment (BRAC) Commission.

[3] Ordnance refers to military weapons, ammunition, and associated equipment.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Vicinity_Map.mxd

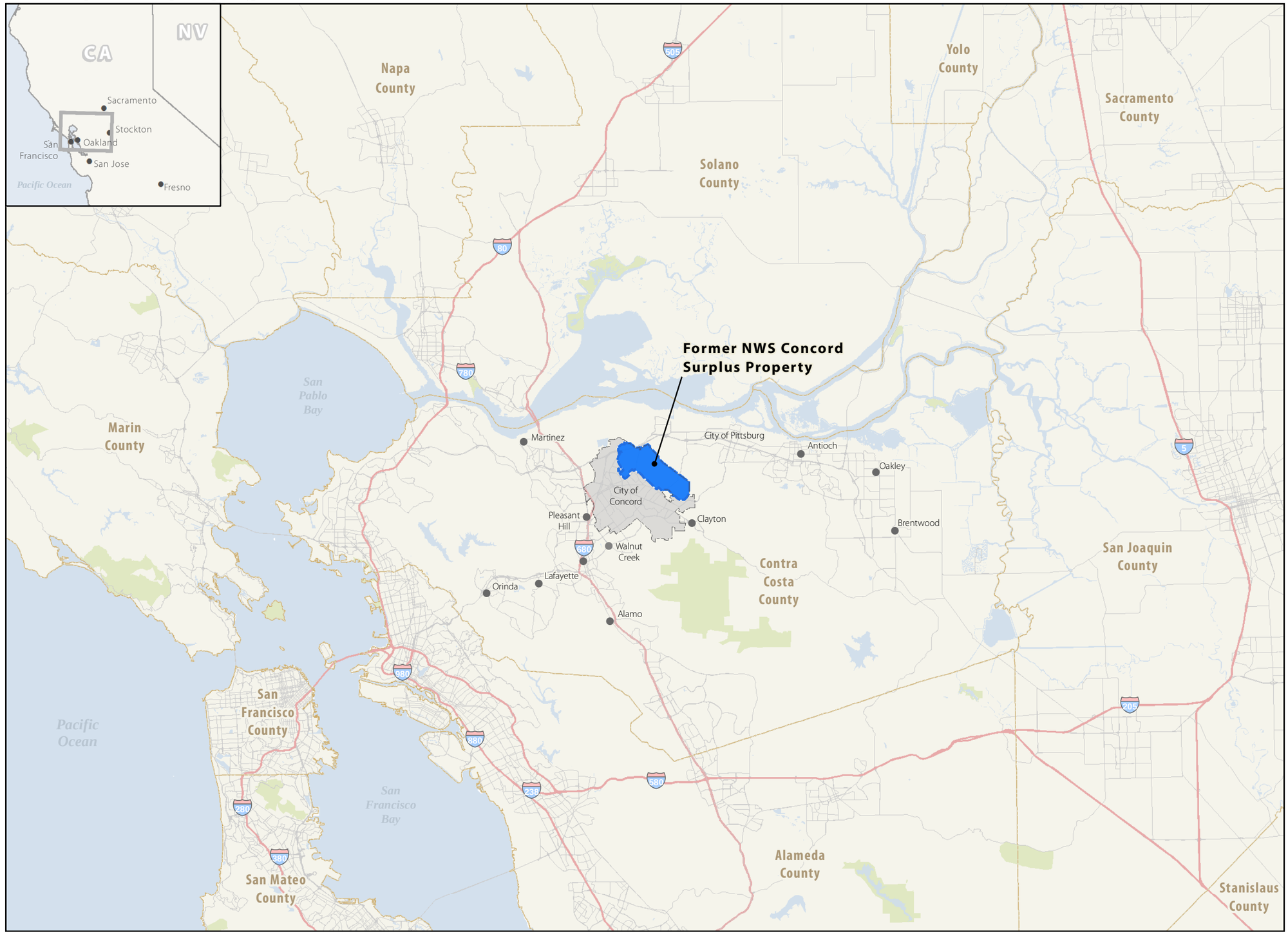


Figure 1-1
Vicinity Map
Former NWS Concord Surplus Property
Concord, California

Legend

- Freeway
- Major Road
- Former NWS Concord Surplus Property
- County Boundary
- Park

N

SCALE

0 4 8 Miles

SOURCE: ESRI, 2010

This page intentionally left blank.

Approximately 6,304 acres along the Suisun Bay (within the Tidal Area) and an additional 115 acres in the Inland Area was transferred to the U.S. Army in 2008 and is now the Military Ocean Terminal Concord (MOTCO [6,419 acres in total]). Approximately 59 acres of the former NWS Concord that supported military housing within the Inland Area was transferred to the U.S. Coast Guard in April 2007.

The former NWS Concord was closed on September 30, 2008, and is currently in Navy caretaker status.

1.6 Community Reuse Planning Process

The City of Concord's 2010 FEIR for the *Concord Community Reuse Project* includes a summary of the city's multi-phase, multi-year process to develop the reuse plan for the former NWS Concord. During all phases of this effort, the city received input from residents, community leaders, and agency representatives regarding the issues and priorities to be addressed while planning for reuse of the site. In the beginning of the reuse planning process, the city drafted a vision statement, which called for the reuse to be economically viable and sustainable, and to maintain and enhance the quality of life in the City of Concord and the region. The city also drafted a set of overarching goals to direct the planning effort, which included:

- **World Class Project**
  - Adopt a long-term view in creating a plan that benefits all future generations and engenders a sense of community pride.
  - Encourage creativity and innovation in the plan.
  - Develop a high-quality project that shall be recognized internationally for its innovative planning and development concepts.
- **Balanced Approach**
  - Balance multiple interests including a broad range of community needs, regional as well as local requirements, and the need for parks and open space with the need for jobs, housing, and community facilities.
- **Economically Viable and Sustainable Development**
  - Maintain long-term economic viability of the project by ensuring that capital costs and future operations and maintenance costs are satisfied on a self-sustaining basis.
- **Quality of Life**
  - Ensure that the plan builds on community assets and opportunities, addresses critical needs and issues, creates net positive benefits, and provides new opportunities to live, work, and play in Concord (City of Concord 2010).

These goals were further refined into a set of extensive guiding principles for the planning effort and are available for viewing at the city's website for the reuse planning effort (www.concordreuseproject.org), along with other materials from the reuse planning process.

The guiding principles provided an articulation of the community's goals for future land use at the base and also specified areas of constraint where physical, environmental, or economic issues would restrict development. The city's reuse planning process also included the formation of a 21-member Community Advisory Committee (CAC) and technical advisory groups. A series of open houses, workshops, and formal public meetings with the CAC and other city boards and commissions addressed key issues such as the level of intensity of use, the arrangement of land uses and transit, the distribution of open space throughout the site, and buffers and transitions between the site and surrounding land uses. The results of

this process were used by city staff and its consultants to develop seven alternative concepts for reuse of the site. The seven alternatives fell into one of three themes: "Extending the Neighborhoods," "Clustered Villages," and "Concentration and Conservation." These broad themes are described below:

- **Extending the Neighborhoods**. Maintaining consistency with the recent history of development in Concord and maximizing compatibility with the existing neighborhoods that border the site.
- **Clustered Villages**. Concentrating uses in neighborhood "villages" that are linked together by high-quality transit service and intensifying some uses to gain space for parks, recreation, and open space.
- **Concentration and Conservation**. Exploring opportunities to maximize parks, recreation, and open space and focusing the remainder of uses around the North Concord/Martinez BART Station and the area adjacent to or north of Willow Pass Road (City of Concord 2008).

The environmental impacts of all seven alternatives were evaluated at an equal level of detail in the 2008 *Concord Community Reuse Project DEIR*.

After assessment of the environmental impacts of the alternatives in the DEIR and additional public meetings, the CAC narrowed the range of alternatives to two—one each from the "Clustered Villages" and "Concentration and Conservation"-themed alternatives—and refined them, modifying aspects of these scenarios such as the density or intensity of development and the location of major land uses. The anticipated financial performance of each alternative was also evaluated. The CAC identified the Clustered Villages Alternative as the preferred reuse alternative and recommended its adoption by the city council.

The LRA adopted Resolution 09-5 in 2009, confirming the CAC recommendation. In 2012, the City of Concord refined the Reuse Plan into an Area Plan, adopted the resulting *Concord Reuse Project Area Plan*, certified an addendum to the FEIR, and amended Concord's citywide Concord 2030 General Plan (City of Concord 2012) to include the Area Plan.

1.7 Scope of the EIS

This EIS evaluates the potential direct, indirect, short-term, and long-term impacts on the human and natural environments resulting from the disposal of the former NWS Concord and the subsequent reuse of the property by the local community. This EIS also addresses potential cumulative impacts that may result from past, present, and reasonably foreseeable future projects in the region. Resource areas examined in this EIS and potentially impacted include:

- Land Use and Zoning
- Socioeconomics and Environmental Justice
- Air Quality and Greenhouse Gases
- Biological Resources
- Cultural Resources
- Topography, Geology, and Soils
- Hazards and Hazardous Substances
- Noise

- Public Services
- Transportation, Traffic, and Circulation
- Utilities and Infrastructure
- Visual Resources and Aesthetics
- Water Resources.

This EIS addresses impacts based on a 25-year build-out and other assumptions made regarding foreseeable reuse of the property. The assumptions were based on the current property use, existing and proposed land use and zoning regulations, and the build-out timeline and development mix represented in the Area Plan and the city's reuse planning process.

The disposal of surplus property at the former NWS Concord is the responsibility of the Navy. As the LRA, the City of Concord is responsible for the implementation of its reuse plan. The future developer or owner of the property will be responsible for acquiring applicable building permits, development approvals, and environmental permits for development of the property.

1.8 Agency Coordination

NEPA requires that federal agencies responsible for preparing NEPA analyses and documentation do so "in cooperation with State and local governments" and other agencies with jurisdiction by law or special expertise (42 U.S.C. §§ 4331[a], 4332[2]). The Navy worked closely with the community, local and state agencies, and other federal agencies during the preparation of this EIS.

Implementation of the proposed action would require multiple approvals from federal, state, regional, and local agencies. The major regulatory requirements and federal permits, licenses, and other entitlements that must be obtained to implement the proposed action are presented in the individual resource sections in Chapters 3 and 4. Copies of agency consultation letters and responses are included in Appendix A.

On March 5, 2013, the USACE, San Francisco District, requested cooperating agency status in the preparation of the EIS for the disposal of the former NWS Concord because the USACE will be the lead federal agency for review of proposed development under Section 404 of the Clean Water Act (CWA) following Navy transfer. The USACE will incorporate this EIS into a future USACE NEPA analysis to support issuance of a CWA Section 404 permit. On April 1, 2013, the Navy concurred with the USACE's request. As a cooperating agency, the USACE has participated in the review of draft versions of the EIS and provided technical expertise.

1.9 Public Involvement under NEPA

The NEPA process incorporates public involvement at several points. The public is afforded the opportunity to comment on the scope of the EIS during the scoping period and to review and comment on the Draft EIS after it has been completed. A description of these public involvement opportunities during the development of this EIS is provided below. In addition, agencies are consulted as appropriate during development of the EIS, as described in Section 1.8.

1.9.1 Public Notification and Scoping

The first step in the NEPA process is publication of a Notice of Intent (NOI), which provides an overview of the proposed action and the scope of the EIS, and opens the public scoping period to allow for members of the public to comment on the scope of the EIS. A notice of the Navy's intent to prepare an EIS and to conduct scoping was published in the *Federal Register* on March 14, 2013 (78 FR 16255). The NOI described the proposed action and alternatives and provided information on the Navy's scoping

period, including the date, location, and times of two public scoping open house sessions to be held in the vicinity of the former NWS Concord. Notices were also published on March 17, 29, 30, and 31, 2013, as display ads in the *East County Times* and the *Contra Costa Times*, two local newspapers, and posted to the Navy BRAC Project Management Office (PMO) website at http://www.bracpmo.navy.mil/.

A letter announcing the Navy's intent to prepare an EIS and announcing the public scoping process was distributed on March 14, 2013, to 2,600 federal, state, and local agencies, elected representatives, tribal entities, neighborhood alliances, and other stakeholders, including residents and businesses within 500 feet of the former NWS Concord. An email address was available for approximately 1,184 residents and businesses within 500 feet of the former NWS Concord in lieu of the postal address, and for these stakeholders, an email notification was provided. Copies of the notification material are included in the *Final Scoping Process Summary* report (see Appendix B).

During the scoping period, federal, state, and local elected officials and agencies and members of the public were encouraged to review information about the proposed action and express their concerns and issues to be addressed in the EIS by submitting comments to the Navy. Comments received during this period were used to determine the scope of issues to be addressed in the EIS.

1.9.1.1 Scoping Meetings

Two public scoping open house sessions were held in the City of Concord at the Concord Senior Citizens Center, located at 2727 Parkside Circle, to inform the public about the proposed action, enable community members to ask questions, and solicit written comments regarding issues to be addressed in the EIS. The public and agency stakeholders were invited to attend and provide comments either at the meetings or via mail, fax, or email to the Navy point-of-contact (POC) for this EIS.

The public scoping meetings were conducted in an open-house format open to the general public. The meetings featured displays, fact sheets, and interaction between Navy staff and the public. Both meetings took place on April 4, 2013, at 4:00 p.m. and again at 7:00 p.m.

1.9.1.2 Summary of Scoping Comments

The scoping comment period concluded on April 19, 2013. All of the comments received from the public and from state, local, or federal agencies were identified and tabulated by topic. Table 1-2 categorizes the comments received by frequency and topic. Issues related to the proposed action and alternatives received the most comments, followed by traffic and transportation, and, finally, by land use, open space, and community facility/services. A number of comments indicated various permit requirements or included recommendations for agency consultation prior to construction.

Table 1-2 Quantity of Comments by Topic

Topic	Number of Comments
Proposed Action and Alternatives	22
Traffic and Transportation	13
Land Use, Open Space, and Community Services	11
Natural Resources	9
Socioeconomics	7
Quality of Life	6
Air Quality	5
Water Resources/Quality	3
Cultural Resources	3
Environmental Management	3

Table 1-2 Quantity of Comments by Topic

Topic	Number of Comments
Infrastructure/Energy	2
Noise	1
Required Consultations or Permit Requirements	8
Miscellaneous Comments	8
Total	**101**

A summary of all comments submitted during the public scoping process is presented in the *Final Scoping Process Summary* report (see Appendix B).

1.9.2 Public Notification and Comment Period for the Draft EIS

The Draft EIS was prepared and made available for public review and comment. A Notice of Availability (NOA) of the Draft EIS was published by the U.S. Environmental Protection Agency (EPA) in the *Federal Register* on October 10, 2014 (79 FR 61303), which initiated a 45-day public review and comment period. In addition to the NOA, the Navy published a notice of public hearing in the *Federal Register* on October 10, 2014 (79 FR 61299).

The notice of public hearing provided information on the public comment period, including the date, location, and time of a public open house to discuss the findings of the Draft EIS as necessary and to receive written comments. Notices of the availability of the Draft EIS and the public meeting were also published on October 12 and November 8 and 9, 2014 as display ads in the *East County Times* and the *Contra Costa Times* and posted to the Navy BRAC PMO website at http://www.bracpmo.navy.mil/.

Copies of the Draft EIS were distributed to federal, state, and local agencies and elected representatives, organizations, and other members of the public for review and comment. (The distribution list of the EIS is provided in Chapter 10). An electronic version of the Draft EIS was also made available for public review at http://www.bracpmo.navy.mil, and a hard copy of the Draft EIS was available for viewing at the Concord, Pittsburg, and Pleasant Hill libraries.

A letter announcing the availability of the Draft EIS and public comment period was distributed on October 10, 2014, to 2,234 federal, state, and local agencies, elected representatives, tribal entities, neighborhood alliances, and other stakeholders, including residents and businesses within 500 feet of the former NWS Concord. An email address was available for approximately 1,927 residents and businesses within 500 feet of the former NWS Concord in lieu of the postal address, and for these stakeholders, an email notification was provided. These mailing lists were updated following the scoping period notifications (e.g., emails returned as undeliverable) and included new/additional agency contacts, individuals who previously submitted scoping comments, and other stakeholders as requested.

Copies of the notification material are included in Appendix L.

1.9.2.1 Draft EIS Public Meeting

The Draft EIS public meeting was held in the City of Concord at the Concord Senior Citizens Center, located at 2727 Parkside Circle, to receive comments on the Draft EIS. The public was invited to attend and provide comments, either at the meeting or via mail, fax, or email, to the Navy POC for this EIS.

The meeting was conducted in an open-house format open to the general public. The meeting featured displays, fact sheets, and interaction between Navy staff and the public. The meeting took place on

Thursday, November 13, 2014, from 4:00 p.m. to 8:00 p.m. Approximately 67 persons attended the open house, and 10 written comments were provided during the open house.

1.9.2.2 Draft EIS Comments

The Draft EIS public comment period concluded on November 25, 2014. Thirty-four comment statements were submitted via mail, email, or comment form. The number of comment letters/statements received is summarized in Table 1-3. The Navy has responded to all substantive public comments on the Draft EIS. The public comments and responses are included in this Final EIS as Appendix K. In addition, a summary of changes to the text from the Draft EIS to the Final EIS is presented in Section 1.10.

Table 1-3 Summary of Comment Statements Received during the Public Comment Period

Comment Source	Number of Comment Statements
Federal agencies	2
State agencies	3
Local government	4
Organizations	4
Concerned citizens	21
Total Comment Statements[1]	**34**

Note:
[1] A comment statement could include a comment letter received, an email, or a comment form submitted.

1.9.3 Final EIS and Record of Decision

In preparing the Final EIS, the Navy considered the comments received on the Draft EIS and revised the analyses or discussions accordingly. Changes to the Draft EIS in response to public and agency comments, and other modifications to the EIS, are discussed further in Section 1.10.

The public will be notified of the availability of the Final EIS upon completion. Upon receipt of the Final EIS, the EPA will publish a NOA of the Final EIS in the *Federal Register*. In addition to the NOA, the Navy will publish a notice of the availability of the Final EIS over three days in the *East Bay Times* (the newspaper which is the result of the merger of the *East County Times* and the *Contra Costa Times*) and posted to the Navy BRAC PMO website at http://www.bracpmo.navy.mil.

Copies of the Final EIS will be distributed to federal, state, and local agencies and elected representatives, organizations, and other members of the public. (The distribution list of the EIS is provided in Chapter 10). An electronic version of the Final EIS will also be made available for public review at http://www.bracpmo.navy.mil, and a hard copy of the Final EIS will be available for viewing at the Concord, Pittsburg, and Pleasant Hill libraries.

In the Final EIS, the public will have the opportunity to review the changes to the Draft EIS and the responses to public comments.

Following publication of the Final EIS, the Navy will prepare a ROD that indicates which action has been selected, the alternatives that were considered, the potential environmental impacts, any specific mitigation activities to support the decision, and any new substantive comments received from public and agency review of the Final EIS. A minimum of 30 days is required before the Navy can make a decision on its proposed action. The 30-day period is specified in the CEQ regulations to allow agency decision-makers to consider purpose and need, weigh alternatives, balance objectives, and make a decision. The Navy will provide an NOA of the ROD in the *Federal Register* and local newspapers. A copy of the ROD

will be posted to the Navy BRAC PMO website and distributed to local government agencies, elected officials, organizations, and potentially interested persons.

The ROD is anticipated to be completed in the fall of 2017.

1.10 Changes from the Draft EIS to the Final EIS

In preparing the Final EIS, the Navy has considered (1) comments received on the Draft EIS during the public comment period; (2) completion of consultations under Section 106 of the National Historic Preservation Act (NHPA) and Section 7 of the Endangered Species Act (ESA); (3) project refinements that have occurred during the course of consultation; and (4) updated environmental information and analyses based on more current data since the Draft EIS was completed in 2014. This section provides further details and identifies whether revisions were made to the EIS due to comments received, completed consultations, project refinements, or consideration of current data.

1.10.1 Changes Based on Public Comments

As discussed above in Section 1.9, 34 comment statements were received during the public comment period on the Draft EIS. Comments received during the public comment period and the Navy's responses to those comments are provided in Appendix K. In some cases, the responses to comments identified necessary changes to the Draft EIS, including factual corrections and modifications to the analyses conducted. A summary of changes to the text from the Draft EIS to the Final EIS based on comments received is presented below by resource area. These changes include the following:

Land Use and Zoning

- Section 3.2.4.1 of the EIS was revised to include additional East Bay Regional Park District (EBRPD) policies that are applicable to the development of regional parks.

Socioeconomics/Public Services

- Sections 3.10.3.2 and 4.10.1.2 were revised to incorporate updated information on fire protection services at the former NWS Concord.
- Figure 3.10-1 was revised to reflect the fire station closures that have occurred since 2013.

Transportation, Traffic, and Circulation

- Figure 3.11-5 was updated to reflect the off-site bicycle network from the most recent Contra Costa Countywide Bicycle Master Plan (2010) and City of Concord Bicycle, Pedestrian & Safe Routes to Transit Plan (2016) Geographic Information System data.
- The Transportation Impact Study, which supported the analyses in the EIS, has been appended to the Final EIS as Appendix H-1.
- Section 3.11.1 has been updated to include a table presenting the traffic counts collected in 2013 at intersections analyzed in the EIS as well as a comparison with the traffic counts collected in 2007 to support the Reuse Plan EIR. Section 3.11.1 also provides a discussion to explain the differences between these sets of traffic counts.
- Several level of service (LOS) calculations presented in Table 4.11-9 for intersections in the vicinity of the project area were corrected.

- Tables 4.11-9 through 4.11-12 have been revised to clarify that roadway improvements are physical improvement measures that may be considered in accordance with the adopted MMRP.
- Table 7-1 has been revised to incorporate additional details on travel demand management (TDM) strategies and the coordination with affected jurisdictions that will be required as part of the adopted MMRP process addressing physical roadway improvements.
- Appendix H-2 provides a detailed comparison of intersections, roadway segments, freeway segments, and roadway ramps that exceed performance thresholds under Alternative 1 to those that exceed performance thresholds under the Preferred Alternative in the City of Concord's 2010 FEIR and 2012 Area Plan EIR Addendum.

Biological Resources / Water Resources

- Minor revisions were made to Section 4.5.1 to indicate that the loss of ruderal habitat is not significant and to describe wildlife movement and removal of fencing currently in place around the installation.
- The EIS has been revised to incorporate wetland acreages that were published in the USACE Public Notice (Public Notice #: 2010-00190S) (USACE 2016) for the NWS Concord redevelopment.
- Section 4.14.1.4 has been revised to clarify that the City of Concord will be responsible for coordinating the Area Plan policies to preserve, protect, and enhance water quality within Mt. Diablo Creek with any existing restoration and enhancement efforts for Mt. Diablo Creek under Section 303(d) of the CWA for meeting water quality standards for impaired waters.
- Sections 4.14.1.2 and 4.14.2.2 have been revised to indicate that the city will need to demonstrate that the fill of Waters of the U.S. has been avoided and minimized to the maximum extent practicable before the USACE issues an Individual Permit to the city or to landowners/developers if the USACE does not issue a site-wide permit to the City of Concord.

Hazards and Hazardous Substances

- Sections 3.8 and 4.8 have been revised to provide clarification in response to agency and public comments and to reflect the current status for various environmental restoration (ER) program sites.

1.10.2 Status of Consultation Processes

The consultation processes under Section 106 of the NHPA and Section 7 of the ESA were completed following the release of the Draft EIS. As discussed in Section 1.8 of the EIS, the USACE intends to use the Final EIS to support its NEPA compliance for issuance of a CWA Section 404 permit. Therefore, while the CWA Section 404 process is not complete, it will be completed prior to implementation of the proposed action. The Final EIS provides new information regarding the consultation processes and the measures to be implemented as a result of the consultation processes.

Section 106 of the NHPA

Since release of the Draft EIS for public review and comment, the Navy has completed the Section 106 consultation process with the California State Historic Preservation Office (SHPO) and other consulting parties to resolve the adverse effects of the proposed action on historic properties. Measures to avoid, minimize, and mitigate potential adverse effects on historic properties are contained within a Memorandum of Agreement (MOA). A copy of the MOA is included as Appendix J. Revisions to the description of the consultation process are included in Section 4.6 of the Final EIS, and specific measures contained within the MOA are also provided in Section 4.6 and Chapter 7.

Section 7 of the ESA

The Section 7 consultation process concluded with the USFWS Pacific Southwest Region issuance of a Biological Opinion (BO) and Incidental Take Statement (ITS) providing guidelines for minimizing impacts on federally listed species during implementation of the Area Plan. During the consultation process with the USFWS, a number of conservation measures were identified as part of the proposed action to minimize the potential effects of the proposed action on federally listed species and their habitat. In addition, the ITS includes terms and conditions which are designed to ensure that the conservation measures are fully implemented and the extent of incidental take is monitored and reported to the USFWS on a timely basis. Changes to the proposed action description associated with these conservation measures are discussed further in Section 1.10.3. A copy of the BO is included as Appendix I.

Revisions to the description of the consultation process are included in Section 4.5, and specific measures contained within the BO are provided in Chapter 7.

1.10.3 Corrections, Clarifications, and Additions to the Proposed Action Description

Surplus Property Acreage

The total area of the surplus property is currently estimated to be 4,972 acres, which is 66 acres less than the surplus property area reported in the Draft EIS. Based on further analysis of the property records for the former NWS Concord, the Navy determined that the previous survey had included a portion of the SR 4/Port Chicago Highway right-of-way and part of the canal system owned by the U.S. Bureau of Reclamation, which is not part of the Navy's surplus property. Where appropriate, the corrected area of the surplus property has been revised throughout the EIS for clarity or is indicated as a footnote[4]. However, as described further in Section 1.4 and Chapter 2, the total area being evaluated for disposal in this EIS (4,972 acres) is smaller than that of the Area Plan (5,046 acres) because the city's plan includes areas outside of the boundary of the former NWS Concord that are not part of the Navy's surplus property.

Area Plan Implementation

As discussed in Chapter 4 of the Draft EIS, the Navy anticipated that the real estate development team or the master developer, who would lead the first stage of the development of the former NWS Concord, would be selected in 2015 by the Concord city council. Since the release of the Draft EIS, the City of Concord has selected a master developer for the first stage of the development. Chapter 4 has been revised to recognize that a master developer has been selected by the city. However, no further information is provided in the EIS regarding the first stage of the development, because the Area Plan has not been amended and the process established by the City of Concord for implementation of the Area

[4] This Final EIS is intended to address disposal of all Navy surplus property and the acreages cited here are provided as estimates for purposes of analysis.

Plan has not changed. The proposed action evaluated in this EIS remains reuse of the property in a manner consistent with the City of Concord's Area Plan. During the City of Concord's design review and permitting process, an environmental review of the new development will be required under CEQA.

Development of an EBRPD Plan

Since the release of the Draft EIS, the EBRPD has begun preparing the Concord Hills Regional Park Land Use Plan for the Conservation/Open Space District. The plan will accommodate conservation, passive recreation, and environmental education. The proposed land use concept can be found at http://www.ebparks.org/about/planning/cnws.

Chapters 2, 3, and 4 have been revised to recognize that the EBRPD has begun development of the Concord Hills Regional Park Land Use Plan, and relevant conservation measures from the BO have been incorporated into the proposed action, as discussed below. However, no further information is provided in the EIS regarding the specifics components of the Concord Hills Regional Park Land Use Plan, because the Area Plan has not been amended, and the process established by the City of Concord for implementation of the Area Plan has not changed. The proposed action evaluated in this EIS remains reuse of the property in a manner consistent with the City of Concord's Area Plan.

The EBRPD will be responsible for completing environmental review of Concord Hills Regional Park Land Use Plan as required under CEQA. Any implementation of the Land Use Plan involving construction projects will require further review and permitting from a variety of agencies including the City of Concord.

Conservation Measures

During the Section 7 consultation process with the USFWS, conservation measures were identified as part of the proposed action to minimize the potential effects of the proposed action on federally listed species and their habitat. The city and the EBRPD will enact planning efforts to execute the Area Plan. As described in the BO, the City of Concord will be responsible for ensuring that the city and future developers of City-authorized projects comply with the conservation measures that apply to the development of the city property, including the on-site and off-site compensatory mitigation measures (USFWS 2017). In accordance with state law, the city council will "adopt one or more specific plans for City Property." The adopted specific plans will be incorporated into the city's General Plan through a General Plan amendment, and all subsequent city entitlements will be consistent with the specific and general plans. The city will include the avoidance and minimization measures contained in the BO conservation measures in the specific plan documents, "making these Conservation Measures part of the city's general plan and ensuring they are enforceable conditions of all future entitlements" (USFWS 2017). The EBRPD's Concord Hills Regional Park Land Use Plan will serve as the long-range plan for the park and will incorporate measures of the Long-Term Management Plan as stated in the BO. The EBRPD will be responsible for completing environmental review of this plan as required under CEQA. Any implementation of the Land Use Plan involving construction projects will require further review and permitting from a variety of agencies including the City of Concord (see Section 2.3). Conservation measures are discussed in Chapter 4 of the EIS.

1.10.4 Updated Data on Existing Environmental Resources and Public Involvement

Based on the passage of time since the October 2014 public release of the Draft EIS, the Navy considered updated information relevant to the presentation of existing conditions. New information is presented primarily in Chapter 3 (Affected Environment) and Chapter 5 (Cumulative Effects). The Navy determined that the information did not substantially change the technical analyses or conclusions presented in the environmental consequences sections of the Final EIS.

In addition, the Navy updated the discussion in Section 1.9 to include a description of the public comment period for the Draft EIS.

1.10.5 New Appendices

Five new appendices were added to the Final EIS:

- Appendix H: Transportation Impact Study (H-1) and Comparison of Level of Service in the Final EIS, the EIR, and Final EIR Addendum (H-2)
- Appendix I: Biological Opinion
- Appendix J: Section 106 Memorandum of Agreement
- Appendix K: Response to Public Comments on the Draft EIS
- Appendix L: Public Comment Period Notification

1.11 Document Organization

This EIS contains 10 chapters and 12 appendices, as described below, and is organized as follows:

Chapter 1: Purpose and Need. Provides a discussion of the purpose and need of the Navy's proposed action, as well as a summary of the location and history of the former NWS Concord. The City of Concord's community reuse planning process, the scope of the EIS, agency coordination, and public involvement under NEPA are also presented.

Chapter 2: Proposed Action and Alternatives. Provides a detailed description of the proposed action and alternatives, as well as a comparison of the environmental consequences of the alternatives in a comparative format.

Chapter 3: Affected Environment. Provides a discussion of the affected environment (setting) for each environmental resource that may be impacted (e.g., Land Use, Socioeconomics and Environmental Justice, and Air Quality and Greenhouse Gases).

Chapter 4: Environmental Consequences. Provides a comprehensive analysis and assessment of the environmental consequences for each resource by alternative and discusses minimization and mitigation measures adopted by the City of Concord in its Area Plan and as required under federal, state, or local regulatory authority.

Chapter 5: Cumulative Effects. Identifies cumulative projects and provides an analysis of cumulative effects. The purpose of the cumulative effects analysis is to identify impacts from the proposed action that might not be significant when considered alone but may contribute to significant impacts when considered in conjunction with impacts from past, current, and reasonably foreseeable future projects.

Chapter 6: Other Considerations. Includes discussions of consistency with plans, policies, and regulations; unavoidable adverse environmental effects and considerations that offset adverse effects; relationships between local short-term uses of the environment and the enhancement of long-term productivity; and irreversible and irretrievable commitment of resources.

Chapter 7: Mitigation and Recommendations for Planning and Management. Provides a summary of the effects of the proposed action and a discussion of minimization and mitigation measures adopted by the City of Concord in its Area Plan and as required under federal, state, or local regulatory authority to avoid or reduce those impacts.

Chapter 8: List of Preparers. Lists the authors who prepared this EIS.

Chapter 9: References. Lists the references used in preparing the analysis and identifies public agencies and other persons that were consulted.

Chapter 10: Distribution List. Lists federal, state, and local agencies and elected representatives and organizations that received a copy of the EIS.

Appendix A presents correspondence between the Navy and other agencies related to the preparation of this EIS.

Appendix B presents the scoping process summary report and public notification material of the Draft EIS.

Appendix C presents supporting information regarding the air quality analysis.

Appendix D presents supporting information for biological resources.

Appendix E presents supporting information for the hazards and hazardous substances analysis.

Appendix F presents supporting information for the infrastructure and utilities analysis.

Appendix G presents the Record of Non-applicability (RONA) of the Clean Air Act General Conformity Rule.

Appendix H presents the Transportation Impact Study that was prepared for the EIS (H-1) and a comparison of the Level of Service in the Final EIS, EIR, and the Final EIR Addendum (H-2).

Appendix I is the Biological Opinion (BO).

Appendix J is the Section 106 Memorandum of Agreement (MOA).

Appendix K is the Response to Public Comments on the Draft EIS.

Appendix L contains the documentation for public notification of the public comment period for the Draft EIS.

2 Proposed Action and Alternatives

This chapter provides a detailed description of the proposed action and alternatives. The proposed action is the disposal of surplus property at the former NWS Concord and the subsequent reuse of the property by the local community. This EIS evaluates two action alternatives for reuse of the surplus property at the former NWS Concord and a No Action Alternative.

Alternative 1 (the Preferred Alternative) is reuse of the surplus property consistent with the City of Concord's Area Plan, as adopted. As discussed in Chapter 1, the Area Plan upon which Alternative 1 is based was the result of an extensive reuse planning process undertaken by the City of Concord. The Navy is also evaluating an alternative to the proposed action, Alternative 2 (Intensified Reuse). Alternative 2 is generally consistent with the policies developed by the City of Concord during the reuse planning process. However, Alternative 2 represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development, which would result in the number of dwelling units exceeding the maximum limit identified in the Area Plan. In addition, the Navy is evaluating a No Action Alternative, as required by the CEQ regulations implementing NEPA. The No Action Alternative is the retention of surplus property at the former NWS Concord by the U.S. government in caretaker status. Under the No Action Alternative, no reuse or redevelopment would occur at the surplus property; therefore, the No Action Alternative would not meet the purpose and need of the proposed action.

2.1 Components of the Proposed Action

This EIS evaluates the direct, indirect, short-term, and long-term impacts, as well as the cumulative effects associated with the following components of the proposed action:

1. Disposal of the property;
2. Foreseeable reuse of the surplus property, which will include but not be limited to:
    i. Construction of a mix of office, retail, residential, community facilities, parks, light industrial, and research and development uses;
    ii. Development of new infrastructure, including utilities and transportation networks;
    iii. Habitat restoration and management; and
    iv. Creation and improvement of a new regional park.
3. Establishment of a permanent residential population and creation of new jobs; and
4. Interim land uses and activities that do not conflict with the proposed reuse of the property.

Although it would not retain control of the surplus property after disposal, the Navy is required, in accordance with NEPA, to evaluate the reasonably foreseeable impacts arising from reuse. CEQ regulations require evaluation of reasonably foreseeable actions regardless of who implements the actions. Accordingly, reuse of the federal property is evaluated in this EIS as a secondary action in time, following the Navy's primary action of disposal. Consequently, the action evaluated in this EIS includes the reasonably foreseeable reuse of the former NWS Concord property, and the federal action of disposal of the surplus property at the former NWS Concord is assumed to be part of each reuse alternative.

The City of Concord's reuse planning process is the primary factor in defining the reuse scenarios considered in this EIS. However, implementation of the Area Plan will be dynamic, long-term, and

dependent on market and general economic conditions beyond the control of both the Navy and the City of Concord. Specific activities and uses that may be developed at the former NWS Concord site cannot be predicted precisely at this time; nonetheless, the reuse of the former NWS Concord is expected to take place in a manner generally consistent with the nature of uses described in the adopted Area Plan.

While the Navy is responsible for the disposal of the surplus property, the City of Concord, as the LRA, will be responsible for implementing the reuse of it under the city's Area Plan. Therefore, any measures identified to avoid or mitigate potential impacts from redevelopment would be the responsibility of the future developer or owners of the property per the City of Concord's planning, zoning, and other regulatory authority and the requirements of federal, state, and local agencies with regulatory authority over and responsibility for such resources.

Following adoption of the Area Plan, the city approved a zoning designation of "S" (Study District) for the site. More detailed development standards and requirements will be applied to the site in the future, as part of more detailed planning activities, and may include the use of one or more specific plans (City of Concord 2012).

2.2 Alternatives

Alternative 1 as identified in this EIS is the reuse of the property in a manner consistent with the City of Concord's Area Plan (Figure 2-1). The Area Plan consists of three documents:

- Book One, Vision and Standards, provides an overview of the vision for the site, including site development standards, land use and circulation plan, principles for community design and mobility, and summaries of technical topics addressed in Book Two and Book Three;
- Book Two, Technical Chapters, provides background information and policy guidance on topics addressed by elements of the Concord 2030 General Plan. The detailed principles and policies provide direction to realize the community vision for the reuse of the property; and
- Book Three, Climate Action Plan, provides strategies and an implementation timeline for reducing greenhouse gas (GHG) emissions associated with the reuse of the property.

Following the adoption of the Area Plan, the City of Concord certified an addendum to the FEIR, adopted a MMRP, and amended the Concord 2030 General Plan to include the Area Plan. Measures identified in the certified FEIR and its addendum and the associated MMRP that will avoid or mitigate potential environmental impacts are legally binding and are the responsibility of future developers or owners of the property. Likewise, the policy guidance detailed in the Area Plan Books Two and Three will minimize potential environmental impacts associated with the reuse of the former NWS Concord. Therefore, Alternative 1 represents the City of Concord's Area Plan as a whole, including:

- Books One, Two, and Three and the policy guidance contained within the documents to minimize potential environmental impacts; and
- The MMRP's mitigation measures.

Alternative 2 is generally consistent with the policies adopted by the City of Concord during the reuse planning process that took place between 2008 and 2012, including the policy guidance provided in Area Plan documents, but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development (Figure 2-2). Alternative 2 also has a slightly smaller

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Alternative1.mxd

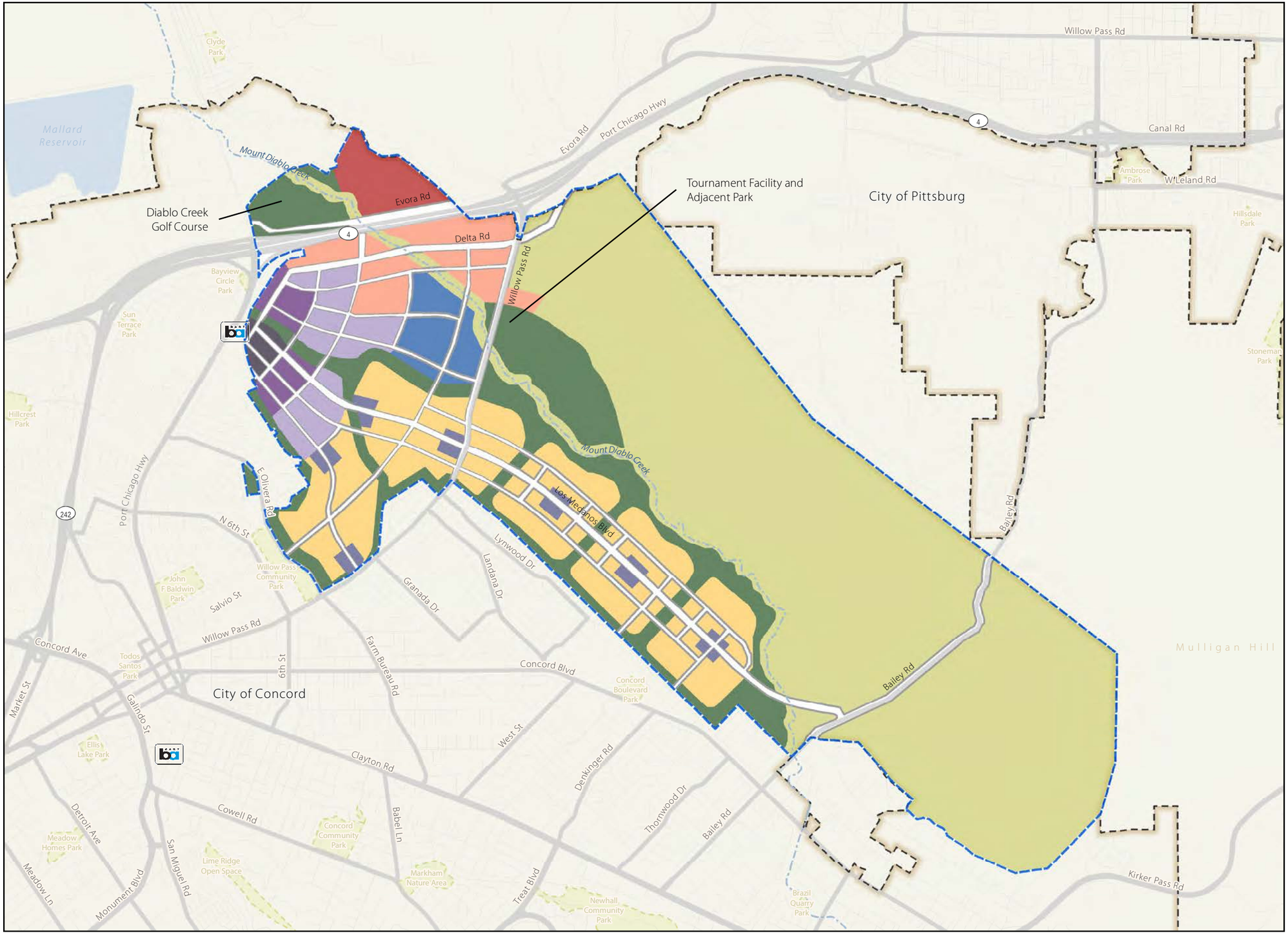


Figure 2-1
Alternative 1: Preferred Alternative
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- Roadways

***Alternative 1 Types of Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways, Citywide Parks and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010

This page intentionally left blank.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Alternative2.mxd

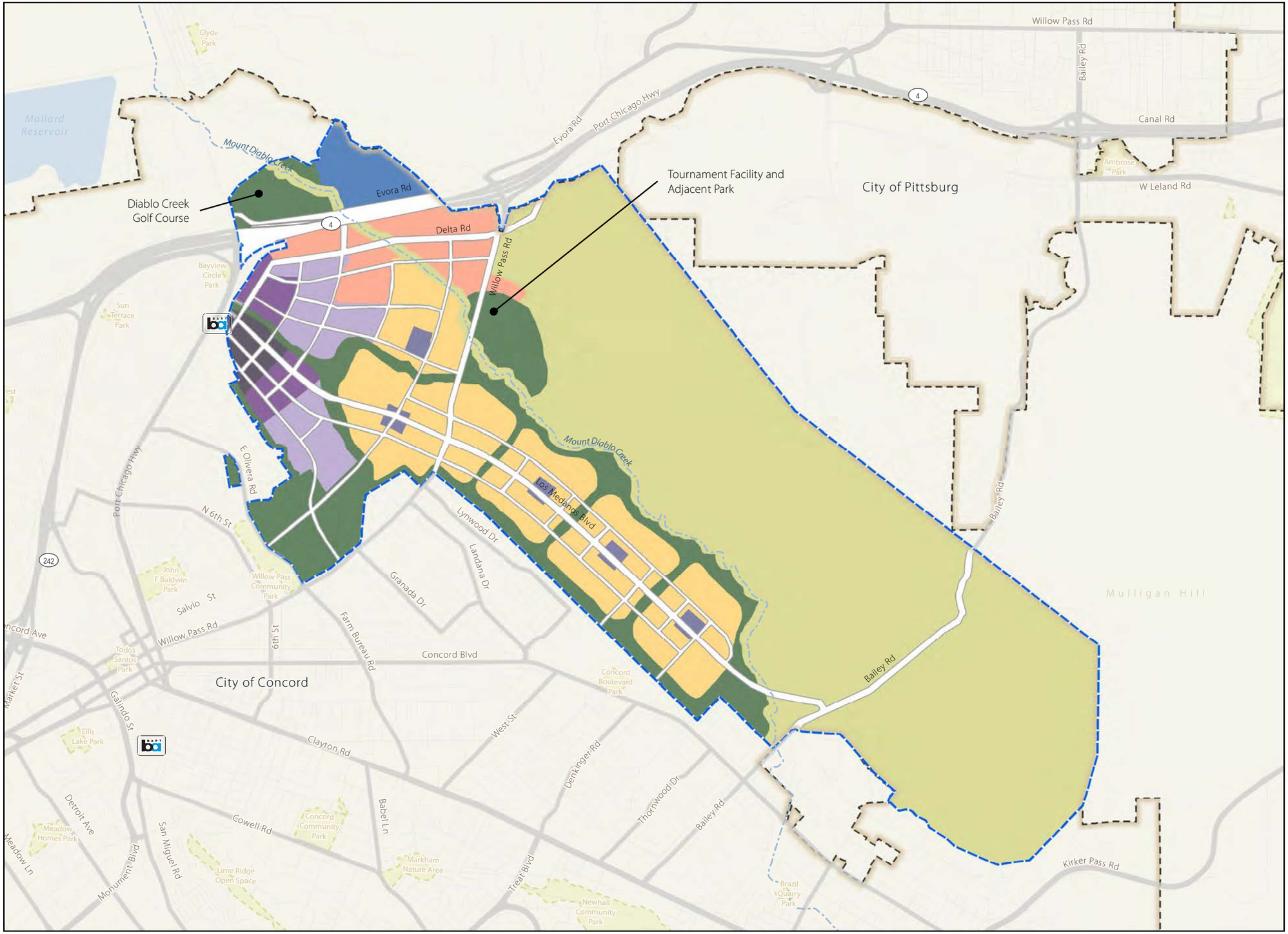


Figure 2-2
Alternative 2: Intensified Reuse
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- Local Park
- Roads

***Alternative 2 Types of Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- Greenways, Citywide Parks and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

N

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010

This page intentionally left blank.

development footprint than the Area Plan. The maximum total number of dwelling units and square feet of commercial floor space that can be built within the planning area, known as the Maximum Planning Area-wide Total, is defined in the Area Plan. The total number of dwelling units proposed in Alternative 2 would exceed the Maximum Planning Area-wide Total and require an amendment to the City of Concord's 2030 General Plan. Both Alternative 1 and Alternative 2 assume full build-out over a 25-year period; the period of analysis for this EIS is during construction and when full build-out has been completed.

Alternative 2, "Intensified Reuse" as presented in this document, is different from Alternative 2, "Connected Villages," as presented in the NOI circulated during the public scoping period in March and April 2013. Alternative 2 was revised by the Navy in response to comments received during the public scoping period to be more consistent with the land use planning policies adopted by the City of Concord as well as known and foreseeable market conditions. Comments on the Connected Villages alternative received during scoping addressed the smaller area designated for conservation and open space in this alternative, as well as concerns regarding higher levels of traffic, noise, and air impacts. Accordingly, the revised Alternative 2 is similar to the adopted policy of the City of Concord as expressed in the Area Plan, reflecting a similar but slightly smaller development footprint and representing a realistic reuse scenario.

2.2.1 Key Planning Concepts

Key planning concepts articulated by the community were incorporated into both Alternative 1 and Alternative 2. These planning concepts include:

- Locate higher-intensity uses around the North Concord/Martinez BART Station;
- Support transit-oriented development (TOD) around the North Concord/Martinez BART Station, transit service in other developed areas of the site, and a broad range of transportation choices (including mass transit, walking, and biking);
- Integrate the site with the existing City of Concord to improve the quality of life for residents in currently established areas of Concord, and avoid creating "two Concords;"
- Create balance in housing types and housing choices;
- Provide community and cultural facilities, including a library/performing arts center/community center, adequate schools for the K-12 on-site population, and a tournament-level sports facility;
- Preserve a minimum 300-foot-wide riparian corridor along the centerline of Mt. Diablo Creek;
- Preserve the hills and ridgelines on the eastern side of the site;
- Limit development in areas of 30-percent slope or greater;
- Avoid and/or minimize intrusion into wetlands and into breeding areas and habitat for threatened and endangered animal species;
- Avoid roads and development east of Mt. Diablo Creek, especially in resource areas containing habitat for threatened and endangered species;
- Maximize open space with facilities and trails that will serve the public;
- Set aside lands and designate them as open space in order to provide on-site mitigation for any unavoidable loss of habitat or wetlands on other portions of the site; and

- Balance on-site mitigation activities and habitat protection with the provision of public access and passive recreation activities (City of Concord 2010).

2.2.2 Area-wide Components of Reuse

Both alternatives would be generally consistent with the policies adopted by the City of Concord during the reuse planning process that took place between 2008 and 2012. Both alternatives focus on the preservation of a significant area of open space and conservation areas, and sustainable development characterized by walkable neighborhoods, TOD, and "complete streets" that balance multiple types of transportation. Both alternatives would also be characterized by a series of "villages" connected by transit, allowing for significant new development while maintaining more than half of the site as parks, recreation land, and open space. Under both alternatives, the western side of the property would be developed as a series of mixed-use "development districts," with a higher concentration of development at the north end, near SR 4 and the North Concord/Martinez BART Station.

The "development districts" in both alternatives are an expression of each alternative's development program. The development districts designate the site areas that are planned for future development. The alternatives provide flexibility because they describe an approximate number of housing units and amount of commercial square footage within each development district. A land-use mix is identified at the district level, but the specific location of the uses within each district is not prescribed. The exact location of the land uses would be determined during future planning and design efforts.

Both alternatives would also include the development of new infrastructure, including utilities and transportation networks; community facilities; and parks, open space, and recreation. Utility infrastructure is discussed in Section 4.12, and transportation networks; community facilities; and parks, open space, and recreation are discussed further below.

Development terms used in the rest of this section are defined in Table 2-1. A description of each alternative is presented in the following sections.

Table 2-1 Definitions of Development Terms

Term	Definition
Community Facility	A facility where public services are provided, such as recreational and cultural activities, and can be operated by public, non-profit, or private organizations.
Joint-Use Facilities	A building, park, or other resource that is shared by two or more entities.
Live/Work Units	Residential units that also serve as home-based offices/businesses.
Local-Serving	Businesses and services frequented primarily by residents of nearby neighborhoods.
Multi-Unit Housing	Residential buildings with common entrances and shared walls between dwellings.
Neighborhood Park	Open spaces within neighborhoods with small-scale facilities, such as play equipment, shaded seating areas, sports fields, and tennis or basketball courts.
Plazas	A small open space that provides an outdoor gathering space with features such as shaded seating.
Pocket Parks	Very small open spaces or green spaces that have amenities such as tot-lots, shaded game tables, and outdoor dining.

Table 2-1 Definitions of Development Terms

Term	Definition
Public Gathering Space	Publicly owned buildings and outdoor spaces such as libraries, parks, schools, municipal buildings, community centers, or plazas where groups can interact.
Single-Unit Housing - Attached	A dwelling that has its own entrance and shares one or more walls with another dwelling.
Single-Unit Housing - Detached	A dwelling that has its own entrances and does not share walls with another dwelling (except when joined to a second unit as defined by the Concord General Plan Housing Element Policy 1.3, Duplexes and Second Unit).
Special Needs Housing	Housing that incorporates special design features and services to meet the needs of a group for which conventional housing may be unsuitable.

Source: City of Concord 2012

2.2.3 Alternative 1 (Preferred Alternative)

Alternative 1 (see Figure 2-1) is the disposal and reuse of surplus property at the former NWS Concord in a manner consistent with the Area Plan. Under Alternative 1, approximately 70 percent of the property would be maintained as conservation, parks, or recreational land uses, and 30 percent would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses within eight types of "development districts." Development on the site would allow for up to a maximum of 12,272 housing units and 6.1 million square feet of commercial space within the development footprint. Two major conservation areas proposed include a 2,537-acre regional park, which would encompass the east side of the property along the ridgeline of Los Medanos Hills, and the Mt. Diablo Creek corridor.

2.2.3.1 Development and Other Districts

The development districts would be serviced by collector streets and two new through-streets, Los Medanos Boulevard to the south and Delta Road to the north. A description of each of the eight types of development districts and the number of each of these development districts is provided below.

North Concord Transit-Oriented Development Core (One District)

The North Concord TOD Core would be located close to the North Concord/Martinez BART Station. This development district would have the highest intensity employment and mixed-use development within the plan area and would serve as a regional employment center. The mixed-use development would include offices and retail shops, and may include multi-unit housing.[1] The transit-oriented focus of the district around the BART station is intended to encourage pedestrian over vehicle traffic. All destinations within the district would be within 0.25 mile of the BART station. Los Medanos Boulevard, a through street, would be located on the northern side of the district.

Development in this district is envisioned to include higher density offices that would be focused around the BART station. Offices would be primarily located in mixed-use buildings that have retail shops on their ground floor or have ground-floor lobbies with street-facing windows. A mix of mid-rise office and multi-unit residential buildings (approximately three to six stories) may be located at the northern edge of

[1] Housing is optional in the North Concord TOD Core Development District.

the district. The building height would decrease in the areas adjacent to the existing City of Concord's Sun Terrace and Holbrook neighborhoods.

The TOD Core district's open spaces would include the North Concord Plaza, a public plaza framed by commercial buildings that would be located across from the BART station. Pocket parks would also be located throughout the district.

Additional appropriate uses for this district that are not mandatory but are in line with the overall vision of the development plan include dining and entertainment, multi-unit housing, special needs housing, a performing arts facility, one or more hotels, community facilities, and cultural/civic facilities.

North Concord TOD Neighborhoods (Two Districts)

Located on the outskirts of the North Concord TOD Core, this development district would be a mixed-use residential district. Development would be within approximately 0.5 mile of the North Concord/Martinez BART Station to encourage pedestrian over vehicle traffic. This mixed-use residential development would consist of mid-rise multi-unit housing (approximately three- to six-story), community facilities such as libraries and schools, and commercial uses such as retail and grocery stores. A portion of the mid-rise multi-unit housing buildings would contain ground-floor retail shops. The North Concord TOD Neighborhoods would also include a mix of rental and owner housing. The southern North Concord TOD Neighborhood would transition from a dense mixed-use residential development to a low- to mid-rise residential area located adjacent to the City of Concord's existing Holbrook neighborhood.

Los Medanos Boulevard and Delta Road would link the North Concord TOD Neighborhoods with the North Concord TOD Core and the other development districts.

The Central Greenway discussed below would traverse the North Concord TOD Neighborhoods. In addition, neighborhood parks, pocket parks, and plazas would be located throughout the district.

Additional appropriate uses for the North Concord TOD Neighborhoods include attached single-unit housing, dining and entertainment, special needs housing, live/work units, and small-scale offices.

Central Neighborhoods (Two Districts)

Located on the outskirts of the North Concord TOD Neighborhoods, extending 0.5 to 1 mile from the North Concord/Martinez BART Station, this development district would be a moderate density, mixed-use residential district serving a range of household types and sizes. A mix of housing types, including mid-rise (approximately three to six stories) multi-unit homes, low- to mid-rise multi-unit homes, and attached single-unit housing, would be located throughout the district. The Central Neighborhoods would also include a mix of rental and ownership housing to accommodate various levels of income. Housing would be in close proximity to retail shops, community facilities, and transit service, with the highest density of development envisioned to be around transit stops. Commercial uses would include convenience retail and grocery stores. Mid-rise buildings (approximately three- to six-story) would be located along Los Medanos Boulevard, a through street that would bisect the southern Central Neighborhood. The Central Neighborhoods would also transition in scale and density in the areas adjacent to existing neighborhoods and the lower-density districts such as the Village Neighborhoods.

The two Central Neighborhood districts are located on both sides of the Central Greenway, which is centered along Mt. Diablo Creek. Los Medanos Boulevard and connector roads would link the Central Neighborhoods with the other development districts.

In addition, neighborhood parks, pocket parks, and plazas would be located throughout the district.

Additional appropriate uses for the Central Neighborhoods include joint use facilities, live/work units, home-based businesses, dining and entertainment, and special needs housing.

Village Centers (Seven Districts)

The Village Centers would act as anchors for the Village Neighborhoods (discussed below). Five districts would be located along the new through street, Los Medanos Boulevard, and two districts would be located in the southwestern portion of the former NWS Concord property. Local-serving retail and services, community facilities, and public gathering spaces would be located within the districts. A mix of housing types, including multi-unit and attached single-unit housing in the form of apartments, townhomes, and condominiums, would also be located within the Village Centers. The character, scale, density, and mix of uses would vary in each Village Center. For example, the anchoring development within a Village Center could range from a grocery store or a similar local service to an elementary school, library, or other community facility.

Each center would also include open spaces such as pocket parks, plazas, and public gathering spaces.

Additional appropriate uses for the Village Centers include joint-use facilities, dining and entertainment, live/work units, and special needs housing. Mixed-use buildings with local retail shops on the ground floor and multi-unit housing above would also be consistent with the Area Plan.

Village Neighborhoods (Five Districts)

The Village Neighborhoods would be residential districts located around the Village Centers. These low- to moderate-density districts would serve a range of household types and sizes through rental and ownership units. Overall development would include low-rise attached single-unit housing in the areas surrounding the Village Centers and detached single-unit homes along the neighborhood edges where the housing density would gradually decrease to transition to adjacent neighborhoods.

The circulation network would consist of local streets with sidewalks, and the district open spaces would include neighborhood parks, pocket parks, and plazas.

Additional appropriate uses for the Village Neighborhoods include multi-unit housing and special needs housing along with live/work and home-based businesses that would allow residents to reduce commute times and automobile travel.

Commercial Flex (One District)

Located in proximity to SR 4 and the new through street to the north, Delta Road, this retail and/or workplace district would serve the region.

Because of its proximity to SR 4 and Willow Pass Road, the Commercial Flex District is situated for uses that require high-capacity road access or high volumes of pass-by trips. Market demand would dictate the exact proportion of light industrial, large-format retail, research and development, and office uses that would be developed in this district.

Overall development would include low-rise buildings with larger block sizes to accommodate larger building footprints typically associated with this type of development. The highest density uses would be located along Delta Road, while complementary uses would be located adjacent to the Campus District and Tournament Facilities (discussed below).

Additional appropriate uses for the Commercial Flex District include public utility facilities and ancillary uses such as dining and lodging that would be defined once commercial uses are established.

Campus (One District)

Located south of the Commercial Flex District, this development district would be a campus environment that could accommodate a range of uses such as educational, research and development, cultural, and health care, and may include a university serving a student population of approximately 10,000 full-time students. These land uses may support complementary uses in the Commercial Flex District. Overall development would include clusters of buildings sited around public spaces. Community facilities, such as a library, could also be part of the Campus District.

Additional appropriate uses for the Campus District include campus-serving retail, a conference center, a performing arts facility, and dormitories.

First Responder Training Center (One District)

Located north of SR 4, this development district would include 80 acres of training grounds and related facilities to support regional first responders such as the Contra Costa County sheriff's and fire departments.

A summary of the conservation, open space, and recreation districts that would be established as part of Alternative 1 is presented below.

Greenways, Citywide Parks, and Tournament Facilities

The Greenways, Citywide Parks, and Tournament Facilities District consists of parks, recreational areas, and linear open spaces. The Central Greenway would be a minimum of 100 feet wide and would extend throughout the site along Mt. Diablo Creek and adjacent to the northern boundaries of the Village Neighborhoods, as well as through the Central Neighborhood, TOD, and Campus districts. This greenway would occupy approximately 380 acres of the site.

Neighborhood frame greenways would also be located along the southwest perimeter of the site, mostly adjacent to the Village Centers. These greenways would provide a transition space between development districts and existing neighborhoods adjacent to the site. The neighborhood frame greenways would range between 275 feet and 425 feet wide between existing Concord neighborhoods and villages, and between 150 feet and 500 feet wide between proposed villages, for a total of approximately 98 acres.

Three citywide parks would be created. These parks would be located adjacent to the proposed Campus District, adjacent to the existing Willow Pass Park, and at the location of the existing municipal Diablo Creek Golf Course. Each proposed citywide park would be approximately 45 to 175 acres, for an approximate total of 308 acres. The citywide park adjacent to the Campus District would include an approximately 75-acre tournament sports facility. This facility would provide space for regional adult and youth tournaments, and may include softball, baseball, and soccer fields, as well as volleyball courts, batting cages, and other sports facilities. The adjacent Commercial Flex District would provide opportunities for shared parking and uses that would support the facility, which may include retail, hotel or motel accommodations, and restaurants.

Smaller pocket parks between 0.25 and 2 acres would be located throughout the plan area, as would neighborhood parks between 2 and 10 acres in size. The North Concord Plaza would be located at the entryway to the North Concord/Martinez BART Station and would provide pedestrian connections between the BART station and other modes of transportation. The plaza would range between 0.5 acre and 5 acres.

Conservation Open Space

The Conservation Open Space District consists of a large, regional open space occupying approximately 2,537 acres, which would be located on the eastern portion of the former NWS Concord, and a linear open space along Mt. Diablo Creek (the Mt. Diablo Creek corridor). The land within this district is anticipated to be

designated for open space and regional park uses. The regional park would be managed by the EBRPD, and would include some limited recreational uses, including trails, picnic areas, shaded seating areas, and interpretive areas.

2.2.3.2 Community Facilities

The Area Plan does not identify specific sites for community facilities in most cases; facilities would generally be clustered in or near Village Centers, Central Neighborhoods, the TOD area, and other areas suitable or desired for public assembly. Development of Alternative 1 is projected to require the development of four elementary schools, one middle school, and one high school to meet the demand generated by new residents. Some students may be accommodated by existing schools outside the former NWS Concord site. The City of Concord will consult with the community and the Mount Diablo Unified School District (MDUSD) to coordinate decision-making about school facilities and capacity as planning and development progresses on the former NWS Concord site.

Community facilities such as a library, schools, police and fire department facilities, community centers, and places of worship would serve the increased population and workforce in the area of the reuse site. Some facilities would serve people living and working in the immediate areas and neighborhoods, while others would serve people from throughout Concord or the wider Bay Area. Locations of community facilities would be specified as development proposals for the site are advanced. Facilities such as schools, libraries, and community centers may be developed as joint use facilities.

A field office for the City of Concord Police Department would likely be included in the reuse of the former NWS Concord to serve the additional population and workforce that would be established in the area. The City of Concord's Area Plan indicates that two fire stations would be needed to serve the site, and if it is not feasible to rehabilitate the Inland Firehouse, two new stations would be constructed. The location of the future fire stations serving the site, along with funding for the stations, would be determined by the city in conjunction with the Contra Costa County Fire Protection District through one or more later, project-specific, local planning processes. In addition, the U.S. Army currently operates an emergency response facility at the MOTCO that is expected to be available for mutual aid response so long as MOTCO is in operation.

Permanent supportive housing and other homeless facilities, including job training programs, a homeless employment center, and a new countywide food bank, are included in the Area Plan. The total number and location of housing units for the homeless would be determined as the site is developed and would comprise at least 1 percent of the total number of residential units developed in the area.

2.2.3.3 Transportation

The proposed transportation system is based on a "complete streets" concept. The complete streets concept means that the needs of all transportation users, including mass transit, motor vehicle, bicycle, and pedestrian, are balanced on the physical transportation network. On-street parking is also provided to create a buffer between vehicle traffic and pedestrians. The balance among each mode of transportation varies depending on the size of the street and its purpose.

Complete Streets

Five types of complete streets would be developed on the former NWS Concord site: through, collector, community, yield, and alley.

Through streets would be the widest streets in the transportation network and would include dedicated space for mixed flow (i.e., lanes that include both buses and personal motor vehicles), mass transit (only on Los Medanos Boulevard), bicycle traffic, and wide sidewalks. Parking lanes and sidewalks would be provided on both sides of the street. The desired speed limit would be between 25 and 35 miles per hour

(mph). Proposed through streets include Los Medanos Boulevard, Delta Road, Willow Pass Road, and Evora Road.

Collector streets would connect internal areas of development districts with through streets. Dedicated lanes for mixed-flow vehicles and bicycle traffic would be provided. Parking lanes and sidewalks would be located on both sides of the street. The desired speed limit would be 20 to 25 mph.

Community streets would connect internal areas of development districts to collector streets. Dedicated lanes would only be provided for shared (mass transit, motor vehicle, and bicycle) traffic. Parking lanes and sidewalks would be located on both sides of the street. The desired speed limit would be 15 to 25 mph. Community streets would generally be located in the internal areas of development districts, between through streets and collector streets.

Yield streets would connect internal areas of development districts between through, collector, and community streets. One lane would be dedicated to shared traffic, and a parking lane would be located on one side of the street. The shared lane would be wide enough for two vehicles to pass, but it is intended for individual cars to yield while another car passes. Sidewalks would be located on both sides of the street, except when adjacent to a conservation, open space, or neighborhood district. The desired speed limit would be 10 to 15 mph.

Alleys would be the narrowest streets in the transportation system. One shared lane would be provided for mass transit, automobile, and bicycle traffic to allow access to rear building entrances. Sidewalks would not be provided. The desired speed limit would be 5 to 10 mph. Alleys would be located in the interior blocks of development districts.

Mass Transit

Several forms of mass transit are planned under the Area Plan. The BART line would be directly accessible from the North Concord/Martinez BART Station, located adjacent to proposed transit-oriented development. A high-frequency transit (bus) service would have two dedicated lanes along Los Medanos Boulevard. The high-frequency transit service would have stops every 0.5 mile, with approximately 7.5 minutes between stops during peak hours and 15 minutes between stops during off-peak hours. Local bus and shuttle service would travel in mixed-flow lanes along collector streets in the eastern portion of the planning area. Local bus and shuttle service would have stops every 0.25 mile, with approximately 15 minutes between stops. Paratransit[2] would be offered as an on-demand service.

Bicycle Network

The bicycle network would consist of Class I, Class II, and Class III routes. Class I bicycle paths would have two lanes divided by a centerline stripe and would be located on separate rights-of-way from surface streets. Class II routes would have two dedicated lanes (one traveling in each direction) on through and collector streets. Class III routes would be located on community and yield streets, would not have a dedicated lane, and would share the road with automobiles. Several proposed bicycle paths would connect to existing and proposed bicycle paths located adjacent to the former NWS Concord site.

2.2.3.4 Property Conveyances

Under base closure law, property may be conveyed through a number of different mechanisms. The Navy may dispose of the former NWS Concord property in parcels, using these different mechanisms, including

[2] Paratransit is defined as transportation service without fixed routes or timetables that supplements larger public transit services. Paratransit services typically include vehicles such as minibuses and can include taxis that are shared among several riders.

but not limited to an economic development conveyance (EDC), conservation conveyance, or public benefit conveyance (PBC). Under an EDC, the property is transferred directly to the recipient and no federal agency is an intervening sponsor. For a PBC, state or local government entities obtain property when sponsored by a federal agency for uses that would benefit the public, such as education, public roads, parks and recreation, wildlife conservation, or public health.

The Navy proposes to transfer approximately 2,500 acres to the EBRPD. This area, designated in the Area Plan as part of the Conservation Open Space District, would be transferred through a PBC. The sponsoring agency for the PBC would be the National Park Service through its Federal Lands to Parks Program. Under the Federal Lands to Parks Program, the National Park Service (NPS) sponsors transfers of surplus federal land to communities, generally at no cost, for public park and recreational use. The EBRPD submitted an application for a PBC through the National Park Service on September 3, 2013. On May 8, 2014, the National Park Service informed the EBRPD and the Navy that the PBC application was approved.

The Navy proposes to transfer approximately 80 acres to the Contra Costa County Sheriff's Department and the Contra Costa County Fire Protection District. This area, designated in the Area Plan as the First Responder Training Center district, would be transferred through a PBC. The sponsoring agency for the PBC would be the U.S. Department of Justice and the Federal Emergency Management Agency (FEMA). The U.S. Department of Justice sponsors transfers of surplus federal land to communities, generally at no cost, for correctional use or law enforcement purposes, and the FEMA sponsors transfer-for-use for emergency management response purposes, including fire and rescue services. On March 30, 2010, FEMA approved the application submitted by the Contra Costa County Fire Protection District, and on June 10, 2015, the U.S. Department of Justice, Bureau of Justice Assistance approved the application submitted by the Contra Costa County Sheriff's Department for law enforcement purposes.

The Navy proposes to transfer the remaining surplus property to the City of Concord through an EDC. This type of property transfer is for the purpose of economic development and job creation.

2.2.4 Alternative 2 (Intensified Reuse)

Alternative 2 has a slightly smaller development footprint than the Area Plan and is generally consistent with the policies adopted by the City of Concord during the reuse planning process but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development (Figure 2-2).

Under Alternative 2, development and conservation would take place in largely the same locations and according to the same development program, concepts, and principles, with some differences. Approximately 70 percent of the property would be maintained as conservation, parks, or recreational land uses, and 30 percent would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses within seven development districts. Development on the site would allow for up to a maximum of 15,872 housing units and 6.1 million square feet of commercial space within the development footprint. (The total area of commercial uses would be the same for Alternative 2 as Alternative 1.) Two major conservation areas proposed include a regional park, which would encompass the east side of the property along the ridgeline of the Los Medanos Hills, and the Mt. Diablo Creek corridor, both of which would be managed as proposed in Alternative 1.

The overall development program for Alternative 2 differs from Alternative 1 in the following ways:

- Alternative 2 does not include the First Responder Training Center District.

- In Alternative 2, the Campus District is located in the area occupied by the First Responder Training Center District in Alternative 1 (north of SR 4). The size of the Campus District is also smaller than in Alternative 1 (80 acres rather than 120 acres). The Campus District in Alternative 2, however, retains the same total area of commercial uses within this smaller area.
- An additional Village Neighborhood and Village Center are located in the area occupied in Alternative 1 by the Campus District.
- The TOD Core, TOD Neighborhood, and Central Neighborhood development districts surrounding the BART station are somewhat expanded in Alternative 2.
- The total number (and corresponding area) of Village Centers is smaller in Alternative 2 because, in this alternative, Village Neighborhood districts are closer in proximity to other commercial areas on the site and may rely on these areas to provide the services that would otherwise be provided by the Village Centers.
- The overall number of residential units in Alternative 2 (15,872) is greater than in Alternative 1 (12,272). Most of this increase is planned within the North Concord TOD Core, North Concord TOD Neighborhood, and Central Neighborhood districts rather than the Village Neighborhood districts.
- The area occupied in Alternative 1 with the Village Neighborhood District south of the proposed Los Medanos Boulevard and west of Willow Pass Road and a portion of one of the two Central Neighborhood districts would be developed as an additional citywide park under Alternative 2. This new citywide park area would include an expanded wetlands restoration component.
- The citywide park that includes the tournament sports facility in Alternative 1 would be smaller in size in Alternative 2.

Similar to Alternative 1, Alternative 2 allocates a fixed number of housing units and commercial development to specific development district areas. A summary comparison of Alternatives 1 and 2 is provided in Table 2-2.

Another difference between the two alternatives is in total area of lateral ground disturbance ("developable area footprint") represented by each. For both alternatives, as discussed in this document, this area represents a maximum developable area rather than a precise calculation of total ground disturbance and has been estimated based on the assumption that the areas of all districts, except for open space and conservation, could be subject to up to 100 percent disturbance. (In other words, within these districts, ground disturbance could take place anywhere within the district during construction of residential and other uses). Up to 5 percent of the total area of open space and conservation in both alternatives is also assumed to be up to 100 percent disturbed by the construction of such features as trails, picnic areas, and parking areas. Under these assumptions, Alternative 1 would have a 2,540-acre developable area footprint, which represents approximately 49 percent of the total land area of the former NWS Concord, and Alternative 2 would have a 2,200-acre developable area footprint, which represents approximately 44 percent of the total land area.

It is important to note that calculations of disturbance under these assumptions are conservative: under either alternative, some areas within the development districts would be avoided during construction; however, precise construction footprints will not be known until specific development projects are proposed for the reuse site. For the purposes of the analysis in this EIS, impact acreages throughout this

document are described as "up to" a certain amount of disturbance, depending on the resource under evaluation.

Table 2-2 Summary Comparison of Proposed Alternatives

District	Approximate Size (acres)		Approximate Number of Housing Units		Approximate Commercial Floor Space (square feet)	
	Alt 1	Alt 2	Alt 1	Alt 2	Alt 1	Alt 2
Development Program						
North Concord TOD Core	55	80	700	2,113	3,000,000	3,000,000
North Concord TOD Neighborhoods	90	85	2,200	4,209	150,000	150,000
Central Neighborhoods	180	200	2,600	2,908	100,000	100,000
Village Centers	70	50	500	500	350,000	350,000
Village Neighborhoods	740	730	6,200	6,143	N/A	N/A
Commercial Flex	210	210	N/A	N/A	1,700,000	1,700,000
Campus	120	80	–[3]	–[3]	800,000	800,000
First Responder Training Center	80	N/A	N/A	N/A	N/A	N/A
Greenways, Citywide Parks, and Tournament Facilities	786	786	N/A	N/A	N/A	N/A
Conservation Open Space	2,715	2,825	N/A	N/A	N/A	N/A
Total[1]	**5,046**	**5,046**	**12,200**	**15,872**	**6,100,000**	**6,100,000**
Maximum Planning Area-wide Total[2]	**5,046**	–[4]	**12,272**	–[4]	**6,115,718**	–[4]

[1] The total area of the surplus property is 4,972 acres. The total area that is being evaluated for reuse in this EIS is 5,046 acres because the city's Area Plan included some areas, such as the North Concord/Martinez BART Station and the Diablo Creek Golf Course, that are not part of the Navy's surplus property. All potential impacts will be analyzed in this EIS.

[2] The Maximum Planning Area-wide Total is defined in the City of Concord's Area Plan and represents the maximum total number of dwelling units and square feet of commercial floor space that can be built within the planning area. Future planning phases will determine the precise acreage, number of dwelling units, and square feet of commercial space in each district; therefore, the final development program may differ from the one represented in this table as long as the Maximum Planning Area-wide Total is not exceeded. The total number of dwelling units proposed in Alternative 2 would exceed the Maximum Planning Area-wide Total and require an amendment to the City of Concord's General Plan.

[3] Dormitories may be considered for the Campus District, depending on the type of campus developed, but are not currently included in the total number of housing units for the planning area.

[4] The Maximum Planning Area-wide Total is defined in the City of Concord's Area Plan. The Area Plan does not address Alternative 2; therefore, no value is provided. However, since the total number of dwelling units proposed in Alternative 2 would exceed the Maximum Planning Area-wide Total in the Area Plan, an amendment to the City of Concord's General Plan would be required if implemented.

2.2.5 No Action Alternative

The No Action Alternative is retention of the former NWS Concord property by the U.S. government in caretaker status. No reuse or redevelopment of the property would occur. Any current approved uses on the property would continue until remaining leases expire or the Navy decides to renew the lease. No new leases would be created under the No Action Alternative. Facilities would be maintained in accordance with the *BRAC Program Management Office (PMO) Building Vacating, Facility Layaway, and Caretaker Maintenance Guidance*, published in March 2007. In accordance with the *BRAC PMO Building Vacating, Facility Layaway, and Caretaker Maintenance Guidance*, only conditions adversely affecting public health, the environment, and safety would be corrected in nonresidential areas. Any remedial activities underway would continue until environmental cleanup is complete.

The No Action Alternative, if implemented, would not satisfy the purpose of or need for action and would not provide the local community with an opportunity for economic development. Although the No Action Alternative would not meet the purpose of or need for the proposed action, it is evaluated as required by

CEQ regulations (40 CFR Section 1502.14[d]) implementing NEPA. For the purposes of this EIS, a No Action Alternative provides a comparison point against which the environmental consequences of the other alternatives can be compared.

2.2.6 Alternatives Considered and Eliminated

According to CEQ regulations implementing NEPA (40 CFR 1502.14), all reasonable alternatives to a proposed action must be "rigorously explored and objectively evaluated" in an EIS. In addition, an EIS is required to include a brief discussion of potential alternatives that have been identified but eliminated from detailed study as well as the reasons for eliminating them.

The following provides a brief summary of the reuse alternatives that were developed through the integration of an extensive community involvement process by the City of Concord; considered in public meetings and workshops by the City of Concord, the CAC, and the community; and evaluated through the CEQA environmental review process. As a result of the aforementioned environmental review and planning process that eventually eliminated alternatives, the Navy has determined that none of these alternatives are reasonable.

Between 2006 and 2007, the City of Concord conducted extensive community outreach, which resulted in the development of seven alternatives for reuse of the former NWS Concord. Based on a communitywide survey of attitudes toward reuse of the site conducted in 2006, most of the community favored mixed-use development throughout the site (City of Concord 2008). Therefore, the seven alternatives were all variations on mixed-use development. Other common elements of the seven alternatives included: highest density uses at the north end of the site near SR 4 and the North Concord/Martinez BART Station; conservation land on the east side of Mt. Diablo Creek; a greenway along Mt. Diablo Creek; allocation of land for community facilities; and a similar transportation network. The seven alternatives differed in the density of development, distribution of development across the site, number of housing units, amount of commercial space, and land for conservation, open space, and recreation (see Table 2-3).

Each of the seven alternatives fell into one of three themes: "Extending the Neighborhoods," "Clustered Villages," and "Concentration and Conservation," as described in Section 1.6. The specific elements of each alternative are described below:

Extending the Neighborhoods

Alternative 1: Extending the Neighborhoods. Development would be primarily low-density, single-family homes, extending the pattern of development adjacent to the western boundary of the former NWS Concord. This alternative would have the highest development footprint (53 percent of the site) but the second lowest number of housing units (7,900 units) and the lowest square footage of commercial development. Commercial development would be limited to an area located near the North Concord/Martinez BART Station.

Clustered Villages

Alternative 2: Connected Villages. This alternative would have an equal mix of low-, medium-, and high-density residential development, with most of the medium- and high-density residential development north of Willow Pass Road, and most of the low-density development in neighborhood villages south of Willow Pass Road and both east and west of Mt. Diablo Creek. Alternative 2 also has the highest amount of commercial development, primarily to the north of the site, and job growth. Approximately 13,000 housing units would be constructed, and approximately 52 percent of the site would be conservation, parks, and recreation.

Table 2-3 Summary of Alternatives Considered in the CEQA Environmental Review Process and Eliminated from Consideration in this EIS

	Extending the Neighborhood	Clustered Villages			Concentration and Conservation		
	Alternative 1 Extending the Neighborhood	Alternative 2 Connected Villages	Alternative 3 Creek Park Village	Alternative 6 West Side Villages	Alternative 4 Concord Park	Alternative 5 Concentration and Conservation	Alternative 7 Conservation First
Development Footprint in acres (%)	2,778 (53%)	2,528 (48%)	2,378 (45%)	1,528 (29%)	2,228 (42%)	1,578 (29%)	1,128 (19%)
Conservation, Open Space, and Recreation in acres (%)	2,250 (47%)	2,500 (52%)	2,650 (55%)	3,500 (71%)	2,800 (58%)	3,450 (71%)	3,900 (81%)
Residential Units	7,900	13,000	11,300	8,000	8,900	10,000	6,250
High Density	525	3,800	2,275	2,700	2,250	3,525	1,775
Moderate Density	650	4,000	4,400	2,900	1,775	3,825	1,975
Low Density	6,725	5,200	4,625	2,400	4,875	2,650	2,500
Average Residential Density (dwellings per acre)	5.0	11.5	11.1	13.9	9.1	16.5	12.6
Commercial Square Footage	5,050,000	7,900,000	6,300,000	5,800,000	5,750,000	6,200,000	5,200,000

Alternative 3: Creek Park Villages. This alternative is similar to Alternative 2, but it has an expanded citywide Creek Park with the neighborhood villages linking to and surrounding the park. Approximately 11,300 housing units would be constructed, and approximately 55 percent of the site would be conservation, parks, and recreation.

Alternative 6: West Side Villages. This alternative would concentrate most of the development west of Mt. Diablo Creek and north of Willow Pass Road, allowing for a greater area of conservation land. South of Willow Pass Road would be two neighborhood villages. The transportation network would not extend east of Mt. Diablo Creek. This alternative would also include a linear park on the west side of the site between the new development and existing neighborhoods. Approximately 8,000 housing units would be constructed, and approximately 72 percent of the site would be conservation, parks, and recreation.

Concentration and Conservation

Alternative 4: Concord Park. Development would be concentrated north of Willow Park Road, with residential areas south of Bailey Road. A large city park would be located in the middle and along the southern boundary of the site. Approximately 8,900 housing units would be constructed, and approximately 58 percent of the site would be conservation, parks, and recreation.

Alternative 5: Concentration and Conservation. Most of the development would be north of Willow Pass Road. Most of the housing units would be moderate to high density, with only 27 percent low density. Approximately 10,000 housing units would be constructed, and approximately 71 percent of the site would be conservation, parks, and recreation.

Alternative 7: Conservation First. This alternative has the largest amount of area to be used for conservation. Approximately 81percent of the site would be conservation, parks, and recreation. A large park would be developed south of Willow Pass Road. All of the development would be north of Willow Pass Road.

As discussed in Section 1.6, after assessment of the environmental impacts of the alternatives in the DEIR and additional public meetings conducted as part of the city's planning and public outreach, the range of alternatives evaluated in the CEQA environmental review process was narrowed and, ultimately, the modified version of the Clustered Villages alternative was selected and identified as the city's preferred development program.

The alternatives selection process included an evaluation of each theme and the alternative(s) under each one, in an attempt to narrow the range of alternatives. The "Extending the Neighborhoods" alternative (Alternative 1) was eliminated during evaluation due to the lack of housing variety (heavily weighted toward low-density residential) it offered, as well as the associated lack of transportation options for residents and employees. Under Alternative 1, private vehicles would be the primary mode of transportation due to the low-density development, which tends to create challenges for other modes of transportation, including walking, biking, and public transit (City of Concord 2007).

For the "Clustered Villages" and "Concentration and Conservation" themes, one alternative was selected to represent each theme. The three alternatives within the "Clustered Villages" theme were very similar to each other: each incorporated a high-capacity bus transit system that would connect the villages to downtown Concord and other areas; had a good balance of residential housing options; had a strong focus on mixed-use development; and had an open space and parks system designed to link to neighborhoods and other city parks while also highlighting accessibility. Because of the similarity of Alternatives 2, 3, and 6, they were combined with some modification to yield a higher density of land uses near the North Concord/Martinez BART Station.

The three alternatives within the "Concentration and Conservation" theme were also similar. Each balanced conservation and open space areas with a concentration of development to the north of Willow Pass Road, with a similar proportion of residential, commercial, and community/institutional facility development. Because of the similarity of Alternatives 4, 5, and 7, they were combined with some modifications to reduce the overall amount of commercial development and to reduce the remediation required for passive open space areas (City of Concord 2012).

The two remaining alternatives, one "Clustered Villages" and one "Concentration and Conservation," were provided to the LRA by the CAC, with a recommendation that the Clustered Villages alternative be selected as the preferred reuse alternative, as previously indicated in Section 1.6. This selection was made because of the strong desire of the community to balance development with conservation—concentrating development on the west side of Mt. Diablo Creek while facilitating the preservation of the east side of the creek as open space, parks, and recreational uses. The LRA confirmed the CAC recommendation, formally designating the Clustered Villages alternative as the preferred reuse alternative, and used it as the basis for the development of the Area Plan and subsequently as the Preferred Alternative (Alternative 1) in this EIS.

2.3 Subsequent Local Planning Efforts

Since completion and adoption of the Area Plan by the City of Concord, proposed property transfer recipients have begun more site-specific planning efforts. The Concord city council selected a real estate development team, or master developer, in 2016 that will lead the first stage of the development of the former NWS Concord. The master developer will also be responsible for development of a specific plan, design standards, and zoning based on the Concord Reuse Project Area Plan and Concord's 2030 General Plan guidelines and standards. The Concord city council also established a Community Advisory Committee in 2016 to provide input and encourage public participation during the first stage of development. The first community workshop was held on March 18, 2017, with 350 persons attending to provide feedback on the concept for the specific plan.

The EBRPD has begun preparing the Concord Hills Regional Park Land Use Plan for the Conservation/Open Space District. The plan will accommodate conservation, habitat restoration, passive recreation, and environmental education. The vision and guiding principles for the Concord Hills Regional Park include:

- Resource protection for natural and cultural resources;
- Resource enhancement, restoration, and mitigation;
- Public access and recreation; and
- Development of environmental education and interpretation programs and facilities (EBRPD 2017).

As the long-range plan for the park, the Land Use Plan will incorporate measures of the Long-Term Management Plan as indicated in the USFWS Biological Opinion (see Appendix I). The proposed land use concept can be found at http://www.ebparks.org/about/planning/cnws. The EBRPD will be responsible for completing environmental review of this plan as required under CEQA. Any implementation of the Land Use Plan involving construction projects will require further review and permitting from a variety of agencies including the City of Concord.

2.4 Comparison of Environmental Consequences

Table 2-4 presents a summary of the environmental consequences associated with disposal and reuse of the former NWS Concord property under each alternative.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Land Use and Zoning	**On-site Land Use:** ***Significant beneficial impacts.*** • Redevelopment of 5,046 acres into eight development districts, including 2,715 acres of conservation open space. • Redevelopment includes 4,972 acres of surplus property and 74 acres of non-Navy property. • Specific development proposals will follow a planning and permitting process administered by the City of Concord.	**On-site Land Use*:*** ***Significant beneficial impacts.*** • Redevelopment of 5,046 acres y into seven development districts, including 2,825 acres of conservation open space. • Redevelopment includes 4,972 acres of surplus property and 74 acres of non-Navy property. • Specific development proposals will follow a planning and permitting process administered by the City of Concord.	**On-site Land Use:** ***Significant adverse impact.*** • Existing land uses not consistent with Area Plan and other plans (also see Consistency with Land Use Plans and Zoning below).
	Regional/Adjacent Land Use: ***No significant impact.*** • Redevelopment of the 5,046-acre property will relieve development pressure on sensitive land resources in county. • Consistent with local/regional land uses and land use plans. • Reduced off-site development pressure with mixed-use development planned on-site.	**Regional/Adjacent Land Use:** ***No significant impact.*** • Redevelopment of the 5,046-acre property will relieve development pressure on sensitive land resources in county. • Consistent with local/regional land uses and land use plans. • Reduced off-site development pressure with mixed-use development planned on-site.	**Regional/Adjacent Land Use:** ***No significant impact.*** • Compatible with regional/adjacent land uses.
	Consistency with Land Use Plans and Zoning: ***No significant impact.*** • Consistent with regional plans – BART Strategic Plan, Association of Bay Area Governments (ABAG) Strategic Plan, Plan Bay Area: Strategy for a Sustainable Region, and Bay Area Joint Policy Committee's FOCUS strategy. • Consistent with local plans – Concord Reuse Project Area Plan, Concord 2030 General Plan, Contra Costa (County) General Plan, and Pittsburg General Plan.	**Consistency with Land Use Plans and Zoning:** ***No significant impact.*** • Consistent with regional plans – BART Strategic Plan, ABAG Strategic Plan, Plan Bay Area: Strategy for a Sustainable Region, and Bay Area Joint Policy Committee's FOCUS strategy. • Consistent with local plans – Concord Reuse Project Area Plan, Concord 2030 General Plan, Contra Costa (County) General Plan, and Pittsburg General Plan. • Number of dwelling units would exceed total planned for the area and require amendment to Concord 2030 General Plan.	**Consistency with Land Use Plans and Zoning:** ***Significant adverse impact.*** • Not consistent with regional plans – BART Strategic Plan, ABAG Strategic Plan, Plan Bay Area: Strategy for a Sustainable Region, and Bay Area Joint Policy Committee's FOCUS strategy. • Not consistent with local plans – Concord Reuse Project Area Plan, Concord 2030 General Plan, Contra Costa (County) General Plan, and Pittsburg General Plan.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Socioeconomics and Environmental Justice	**Economy, Employment, and Income:** ***Significant beneficial impacts.*** • $6.3 billion in total construction expenditures. • Beneficial direct, indirect, and induced impacts from increased output, earnings, and employment in the area. • 18,933 jobs (direct, indirect, and induced) from construction expenditures. • 26,537 jobs (direct, indirect, and induced) at full build-out.	**Economy, Employment, and Income:** ***Significant beneficial impacts.*** • Greater total construction expenditures than Alternative 1. • Beneficial direct, indirect, and induced impacts from increased output, earnings, and employment in the area; slightly greater than Alternative 1 during construction phase. • More jobs from construction expenditures and at full build-out (direct, indirect, and induced) than Alternative 1.	**Economy, Employment, and Income:** ***No impact.*** • No new economic activity in the form of construction expenditures or increased output, earnings, and employment.
	Population***: No significant impact.*** • Construction of 12,200 residential units would increase population in City of Concord by 31,462 persons. Regional population growth forecasted from other factors not related to proposed action.	**Population*****: No significant impact.*** • Construction of 15,872 residential units would increase population in City of Concord by 40,309 persons. Regional population growth forecasted from other factors not related to proposed action.	**Population:** ***No impact.*** • No change in local population.
	Housing and Commercial Property: ***No significant impact.*** • 12,200 new residential units would increase housing stock consistent with anticipated local and regional demand. • Consistent with City of Concord Homeless Assistance Plan and affordable housing goals. • Short-term impact on commercial property market from addition of 6.1 million square feet of commercial space when much vacant commercial space is already available. Impacts expected to decrease as anticipated regional growth occurs.	**Housing and Commercial Property:** ***No significant impact.*** • 15,872 new residential units would increase housing stock consistent with anticipated local and regional demand. • Consistent with City of Concord Homeless Assistance Plan and affordable housing goals. • Short-term impact on commercial property market from addition of 6.1 million square feet of commercial space when much vacant commercial space is already available. Impacts expected to decrease as anticipated regional growth occurs.	**Housing and Commercial Property:** ***No impact.*** • No change in housing and commercial property markets.
	Taxes and Revenue: ***Significant beneficial impact.*** • $70 million increase in property tax and sales/use tax revenue from implementation of Alternative 1.	**Taxes and Revenue:** ***Significant beneficial impact.*** • Greater increase in property tax and sales/use tax revenue from implementation of Alternative 2 than from implementation of Alternative 1.	**Taxes and Revenue:** ***No impact.*** • No change in local government tax receipts.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Environmental Justice and Protection of Children: ***No disproportionately high or adverse effects.*** • Communities of concern exist within the study area. However, they would not experience disproportionately high or adverse human health or environmental effects as a result of Alternative 1. • No unique environmental health or safety issues would impact children in the affected communities.	**Environmental Justice and Protection of Children:** ***No disproportionately high or adverse effects.*** • Communities of concern exist within the study area. However, they would not experience disproportionately high or adverse human health or environmental effects as a result of Alternative 2. • No unique environmental health or safety issues would impact children in the affected communities.	**Environmental Justice and Protection of Children:** ***No impact.*** • No change from current conditions.
Air Quality	**Consistency with Planning Standards:** ***No significant impact.*** • Population increases would be consistent with current planning strategies. • The rate of increase in vehicle miles traveled (VMT) would be less than the rate of increase in population.	**Consistency with Planning Standards:** ***No significant impact.*** • Population increases would be consistent with current planning strategies. • The rate of increase in VMT would be less than the rate of increase in population.	**Consistency with Planning Standards:** ***No impact.*** • No new emissions would be generated by the proposed action, which would not occur. However, the improvements and mitigations planned for the City of Concord would not be implemented and, given the growth of population anticipated for the region, criteria pollutants and GHG emissions would continue to increase.
	Criteria Pollutants: ***Significant adverse impacts.*** • The Bay Area Air Quality Management District (BAAQMD) is in non-attainment with the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for ozone and particulate matter $(PM)_{2.5}$ and in non-attainment with the CAAQS for PM_{10}. • Daily and annual emission estimates of criteria air pollutants from construction and operations would exceed BAAQMD significance thresholds. • Proposed action is exempt for Clean Air Act (CAA) Conformity Analysis. A Record of Non-Applicability (RONA) for CAA Conformity is provided in Appendix G.	**Criteria Pollutants:** ***Significant adverse impacts.*** • The BAAQMD is in non-attainment with the NAAQS and CAAQS for ozone and $PM_{2.5}$ and in non-attainment with the CAAQS for PM_{10}. • Daily and annual emission estimates of criteria air pollutants from construction and operations would exceed BAAQMD significance thresholds. • Proposed action is exempt for CAA Conformity Analysis. A RONA for CAA Conformity is provided in Appendix G.	**Criteria Pollutants:** ***No significant impact.*** • No new emissions would be generated by the proposed action, which would not occur. However, the improvements and mitigations planned for the City of Concord would not be implemented and, given the growth of population anticipated for the region, criteria pollutants would continue to increase.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	GHG Emissions: ***No significant impact.*** • Annual per capita greenhouse gas (GHG) emissions resulting from the implementation of Alternative 1 would be consistent with local and state GHG emission planning goals.	**GHG Emissions:** ***No significant impact.*** • Annual per capita GHG emissions resulting from the implementation of Alternative 2 would be higher than Alternative 1 but would be consistent with local and state GHG emission planning goals.	**GHG Emissions:** ***No significant impact.*** • No new emissions would be generated by the proposed action, which would not occur. However, the improvements and mitigations planned for the City of Concord would not be implemented and, given the growth of population anticipated for the region, GHG emissions would continue to increase.
	Mitigation: Planned mitigation measures defined in the Area Plan, and evaluated in the Area Plan Climate Action Plan (Area Plan CAP), would reduce the impacts of GHG and criteria pollutant emissions. Mitigation measures include transportation diversity and demand management; on-site photovoltaic installations; building design to meet energy efficiency standards; proper maintenance of equipment; and idling-reduction measures.	**Mitigation:** Planned mitigation measures defined in the Area Plan, and evaluated in the Area Plan CAP, would reduce the impacts of GHG and criteria pollutant emissions. Mitigation measures include transportation diversity and demand management; on-site photovoltaic installations; building design to meet energy efficiency standards; proper maintenance of equipment; and idling-reduction measures.	
Biological Resources	**Vegetation Communities and Habitats**: ***No significant impacts.*** <u>California Annual Grassland</u> • Permanent removal of existing vegetation communities and associated habitats, most of which is California annual grassland. Approximately 1,660 acres of grassland would be permanently impacted; however, approximately 2,045 acres of grassland habitat would remain on-site. • Potential adverse impacts on remaining grasslands due to invasive and non-native species would be addressed through implementation of the Area Plan, including the MMRP. • Temporary disturbance on areas to be maintained as conservation/open space during construction. <u>Coyote Brush Scrub/Coastal Sage Scrub</u> • Removal of 92 percent (4.6 acres) of this limited on-site habitat that does not provide suitable habitat for unique species.	**Vegetation Communities and Habitats**: ***No significant impacts.*** <u>California Annual Grassland</u> • Permanent removal of existing vegetation communities and associated habitats, most of which is California annual grassland. Approximately 1,593 acres of grassland would be permanently impacted; however, approximately 2,115 acres of grassland habitat would remain on-site. • Potential adverse impacts on remaining grasslands due to invasive and non-native species would be addressed through implementation of the Area Plan, including the MMRP. • Temporary disturbance on areas to be maintained as conservation/open space during construction. <u>Coyote Brush Scrub/Coastal Sage Scrub</u> • Removal of all 5 acres of this limited on-site habitat that does not provide suitable habitat for unique species.	**Vegetation Communities and Habitats:** ***No impact.*** Existing vegetation would be managed in accordance with the *Base Realignment and Closure Program Management Office Building Vacating, Facility Layaway, and Caretaker Maintenance Guidance* (Navy 2007).

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Oak Woodland/Savannah • Permanent loss of approximately 9 acres of this habitat type, leaving 92 percent (99 acres) undisturbed. • Proposed removal would trigger the City of Concord Heritage Tree Ordinance and developer would be required to comply with the mitigation provisions of this ordinance. Riparian Woodlands • Removal of 5 acres of this habitat type, leaving 84 percent (26 acres) undisturbed. • Loss of riparian woodlands along Willow Pass Creek would be minimized through the Section 401/404 process, and the establishment of a 300-foot riparian buffer along Mt. Diablo Creek would increase overall riparian woodland communities on-site. Wetlands and Non-Wetland Waters • Approximately 4.5 acres (net loss of 4.23 acres) of jurisdictional wetlands impacted; the non-jurisdictional wetlands and other waters consist of the golf course ponds and canals and will likely be avoided. (See Water Resources Section for discussion of avoidance and minimization measures.) Orchards and Plantations • Approximately 113 acres would be permanently removed from the site, leaving approximately 27 percent (43 acres) on-site.	Oak Woodland/Savannah • Permanent loss of approximately 9 acres of this habitat type, leaving 92 percent (99 acres) undisturbed. • Proposed removal would trigger the City of Concord Heritage Tree Ordinance and developer would be required to comply with the mitigation provisions of this ordinance. Riparian Woodlands • Removal of 5 acres of this habitat type, leaving 84 percent (26 acres) undisturbed. • Loss of riparian woodlands along Willow Pass Creek would be minimized through the Section 401/404 process, and the establishment of a 300-foot riparian buffer along Mt. Diablo Creek would increase overall riparian woodland communities on-site. Wetlands and Non-Wetland Waters • Approximately 4.85 acres of jurisdictional wetlands impacted; the non-jurisdictional wetlands and other waters consist of the golf course ponds and canals and will likely be avoided. (See Water Resources Section for discussion of avoidance and minimization measures.) Orchards and Plantations • Approximately 112 acres would be permanently removed from the site, leaving approximately 28 percent (44 acres) on-site.	

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Fish and Wildlife: ***No significant impacts.*** • Temporary impacts in the form of disturbance during construction may include displacement and minor impacts due to mortality of a small number of less-mobile species. • Loss of existing habitat due to permanent habitat conversion to developed areas but there is a regional availability of these habitats coupled with the preservation of the Conservation/Open Space District. • Loss of nesting areas for breeding birds, stopover areas for breeding birds, and stopover areas for migratory birds during construction would be minimized through the preservation of the conservation area and creation of a 300-foot buffer along Mt. Diablo Creek. • Potential introduction of non-native wildlife species. • Permanent loss of stream and wetland habitats would permanently displace aquatic biota; however, restoration of Mt. Diablo Creek and the creation of a 300-foot buffer would result in beneficial impacts.	**Fish and Wildlife**: ***No significant impacts.*** • Temporary impacts in the form of disturbance during construction may include displacement, and minor impacts due to mortality of a small number of less-mobile species. • Loss of existing habitat due to permanent habitat conversion to developed areas but there is a regional availability of these habitats coupled with the preservation of the Conservation/Open Space District. • Loss of nesting areas for breeding birds, stopover areas for breeding birds, and stopover areas for migratory birds during construction would be minimized through the preservation of the conservation area and creation of a 300-foot buffer along Mt. Diablo Creek. • Potential introduction of non-native wildlife species. • Permanent loss of stream and wetland habitats would permanently displace aquatic biota; however, restoration of Mt. Diablo Creek and the creation of a 300-foot buffer would result in beneficial impacts.	**Fish and Wildlife:** ***No impact.*** • Overall abundance of wildlife may increase because of the lack of human activity.
	Special Status Species: ***No significant impacts with mitigation.*** <u>California Red-Legged Frog – Federally Threatened</u> • Pursuant to the Endangered Species Act (ESA), reuse may affect and is likely to adversely affect this species. • Removal of up to 2,315 acres of this species' habitat, including direct impacts to non-breeding aquatic habitat, upland, and dispersal habitats. • Direct effects through harassment or mortality could occur during both construction and operation. • Implementation of conservation measures and compliance with the terms and conditions of the Section 7 Biological Opinion (BO) would ensure that Alternative 1 would not jeopardize the continued existence of this species and limit	**Special Status Species:** ***No significant impacts with mitigation.*** <u>California Red-Legged Frog – Federally Threatened</u> • Pursuant to the ESA, reuse may affect and is likely to adversely affect this species. • Removal of up to 2,234 acres of this species' habitat, including direct impacts to non-breeding aquatic habitat, upland, and dispersal habitats. • Direct effects through harassment or mortality could occur during both construction and operation. • Implementation of mitigation similar to that provided under Alternative 1 would ensure that Alternative 2 would not jeopardize the continued existence of this species and limit impacts to a non-significant level.	**Special Status Species:** ***No impact.*** • California red-legged frog and California tiger salamander populations would likely continue on the site.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	impacts to a non-significant level. <u>California Tiger Salamander – Federally Threatened</u> • Pursuant to the ESA, reuse may affect and is likely to adversely affect this species. • Total of up to 957 acres of direct California tiger salamander habitat impacts estimated, including approximately 19 acres of high-quality habitat, 119 acres of medium-quality habitat, and 819 acres of low-quality habitat. • Direct effects through harassment or mortality could occur during both construction and operation. • Implementation of conservation measures and compliance with the terms and conditions of the Section 7 mitigation in accordance with BO would ensure that Alternative 1 would not jeopardize the continued existence of this species and limit impacts to a non-significant level. <u>Alameda Whipsnake – Federally Threatened</u> • Pursuant to the ESA, reuse may affect and is likely to adversely affect this species. • No individuals have been previously documented on-site; however, suitable habitat exists. • Permanent adverse impacts on Alameda whipsnake habitat through loss of suitable habitat and direct mortality of individuals during construction and post-development recreational use. • Implementation of conservation measures and compliance with the terms and conditions of the Section 7 BO would ensure that Alternative 1 would not jeopardize the continued existence of this species and limit impacts to a non-significant level.	<u>California Tiger Salamander – Federally Threatened</u> • Pursuant to the ESA, reuse may affect and is likely to adversely affect this species. • Total of up to 898 acres of direct California tiger salamander habitat impacts estimated. • Direct effects through harassment or mortality could occur during both construction and operation. • Implementation of mitigation similar to that provided under Alternative 1 would ensure that Alternative 2 would not jeopardize the continued existence of this species and limit impacts to a non-significant level. <u>Alameda Whipsnake – Federally Threatened</u> • Pursuant to the ESA, reuse may affect and is likely to adversely affect this species. • No individuals have been previously documented on-site; however, suitable habitat exists. • Permanent adverse impacts on Alameda whipsnake habitat through loss of suitable habitat and direct mortality of individuals during construction and post-development recreational use. • Implementation of mitigation similar to that provided under Alternative 1 would ensure that Alternative 2 would not jeopardize the continued existence of this species and limit impacts to a non-significant level.	

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Mitigation for California Red-Legged Frog, California Tiger Salamander, and Alameda Whipsnake: Implementation of conservation measures and compliance with the terms and conditions of the Section 7 BO by the USACE, Navy, City of Concord, and EBRPD would ensure that Alternative 1 would not jeopardize the continued existence of these three species and would limit impacts to a non-significant level. <u>Bald and Golden Eagle</u> Potential impacts to individuals or their habitat during construction due to loss or disturbance of an active nest. Any future reuse would be required to avoid and minimize potential impacts on the species and compensate for impacts on the species' habitat per the protections afforded by the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), and California Department of Fish and Game (CDFG) Codes.	**Mitigation for California Red-Legged Frog, California Tiger Salamander, and Alameda Whipsnake:** Implementation of mitigation similar to that provided under Alternative 1 would ensure that Alternative 2 would not jeopardize the continued existence of these three species and would limit impacts to a non-significant level. <u>Bald and Golden Eagle</u> Potential impacts to individuals or their habitat during construction due to loss or disturbance of an active nest. Any future reuse would be required to avoid and minimize potential impacts on the species and compensate for impacts on the species' habitat per the protections afforded by the MBTA, BGEPA, and CDFG Codes.	
Cultural Resources	**Native American Resources:** ***No impact.*** • No Native American resources were identified at former NWS Concord by federally recognized Indian tribes consulted for the proposed action. Federally recognized Indian tribes consulted for the proposed action included the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians.	**Native American Resources:** ***No impact.*** • No Native American resources identified at former NWS Concord by federally recognized Indian tribes consulted for the proposed action. Federally recognized Indian tribes consulted for the proposed action included the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians.	**Native American Resources:** ***No impact.*** • No Native American resources were identified at former NWS Concord by federally recognized Indian tribes consulted for the proposed action. Federally recognized Indian tribes consulted for the proposed action included the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians.
	NRHP-Listed or -Eligible Historic Properties: ***No significant impacts with mitigation.*** • Pursuant to Section 106 of the National Historic Preservation Act (NHPA), reuse of former NWS Concord could have an adverse effect on historic properties resulting from disturbance or destruction of two National Register of Historic Places (NRHP)-eligible archaeological sites during implementation of Alternative 1.	**NRHP-Listed or -Eligible Historic Properties:** ***No significant impacts with mitigation.*** • Reuse of former NWS Concord could have an adverse effect on historic properties resulting from disturbance or destruction of two NRHP-eligible archaeological sites during implementation of Alternative 2.	**NRHP-Listed or -Eligible Historic Properties:** ***No impact.*** • The two NRHP-eligible archaeological sites at former NWS Concord would remain under federal ownership and Navy would continue to protect the sites under the No Action Alternative for the proposed action.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Mitigation: Implementation of mitigation in accordance with the Memorandum of Agreement (MOA) executed as part of Section 106 consultation would resolve adverse effects and significant impacts.	**Mitigation**: Implementation of mitigation similar to that provided under Alternative 1 would resolve adverse effects and significant impacts.	
Topography, Geology, and Soils	**Topography: *No significant impacts.*** • Below-grade development and other contour changes would be gradual.	**Topography: *No significant impacts.*** • Below-grade development and other contour changes would be gradual.	**Topography: *No impact.*** • No change from current conditions.
	Geology: *No significant impacts with mitigation.* • High potential for seismically induced ground shaking, ground failure, slope failure, and surface fault rupture due to location in a seismically active area. • The Clayton Section Greenville Fault located on the former NWS Concord is an active Holocene fault, but with no history of earthquakes. • **Mitigation**: For ground shaking and ground failure: buildings engineered/designed per the International Building Code. Design standards are not intended to fully mitigate for liquefaction, some ground failure, slope failure, and surface fault rupture.	**Geology: *No significant impacts with mitigation.*** • High potential for seismically induced ground shaking, ground failure, slope failure, and surface fault rupture due to location in a seismically active area. • The Clayton Section Greenville Fault located on the former NWS Concord is an active Holocene fault, but with no history of earthquakes. **Mitigation**: For ground shaking and ground failure: buildings engineered/designed per the International Building Code. Design standards are not intended to fully mitigate for liquefaction, some ground failure, slope failure, and surface fault rupture.	**Geology**: ***No impact.*** • No change from current conditions.
	Soils: ***No significant impacts with mitigation.*** • Loss of topsoil, exposure of old fill, and import of new fill during grading, excavation, and other construction activities. **Mitigation**: Erosion and sediment control measures in accordance with local and state laws, stormwater permit, and Construction General Permit would reduce impacts to less than significant.	**Soils**: ***No significant impacts with mitigation.*** • Loss of topsoil, exposure of old fill, and import of new fill during grading, excavation, and other construction activities. **Mitigation**: Erosion and sediment control measures in accordance with local and state laws, stormwater permit, and Construction General Permit would reduce impacts to less than significant.	**Soils**: ***No impact.*** • No change from current conditions.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Hazards and Hazardous Substances	**Environmental Restoration (ER) Program Sites:** ***No significant impacts.*** • Navy's ER Program sites are in various stages of completion depending on the site. • Navy compliance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process and adherence to federal laws and regulations would ensure that hazards to the public or environment from hazardous wastes/materials associated with former sites would be minimized to the extent practicable.	**ER Program Sites:** ***No significant impacts.*** • Navy's ER Program sites are in various stages of completion depending on the site. • Navy compliance with the CERCLA process and adherence to federal laws and regulations would ensure that hazards to the public or environment from hazardous wastes/materials associated with former sites would be minimized to the extent practicable.	**ER Program Sites:** ***No significant impacts.*** • Navy's ER Program sites are in various stages of completion depending on the site. Navy compliance with the CERCLA process and adherence to federal laws and regulations would ensure that hazards to the public or environment from hazardous wastes/materials associated with site cleanup would be minimized to the extent practicable.
	Solid Waste Management Unit (SWMU) Sites: ***No significant impacts.*** • All SWMU sites at former NWS Concord have been recommended for no further action, except for four sites already transferred to the Installation Restoration Program (IRP). • Compliance with the Resource Conservation and Recovery Act (RCRA) process and adherence to federal laws and regulations during construction and operation would ensure that hazards to the public or environment from hazardous wastes/materials associated with former sites would be minimized to the extent practicable.	**SWMU Sites:** ***No significant impacts.*** • All SWMU sites at former NWS Concord have been recommended for no further action, except for four sites already transferred to the IRP. • Compliance with the RCRA process and adherence to federal laws and regulations during construction and operation would ensure that hazards to the public or environment from hazardous wastes/materials associated with former sites would be minimized to the extent practicable.	**SWMU Sites:** ***No impact.*** • All SWMU sites at former NWS Concord have been recommended for no further action, except for four sites already transferred to the IRP.
	Radiological Sites: ***No significant impacts.*** • Radiation surveys are ongoing at sites with low contamination potential as identified by historical radiological assessment. • Compliance with the Atomic Energy Act and the CERCLA process, and adherence to federal laws and regulations during construction and operation, would ensure that hazards to the public or environment from radioactive wastes/materials associated with former sites would be minimized to the extent practicable.	**Radiological Sites:** ***No significant impacts.*** • Radiation surveys are ongoing at sites with low contamination potential as identified by historical radiological assessment. • Compliance with the Atomic Energy Act and the CERCLA process, and adherence to federal laws and regulations during construction and operation, would ensure that hazards to the public or environment from radioactive wastes/materials associated with former sites would be minimized to the extent practicable.	**Radiological Sites:** ***No significant impacts.*** • Site evaluation would continue. • Compliance with the Atomic Energy Act and the CERCLA process, and adherence to federal laws and regulations, would ensure that hazards to the public or environment from radioactive wastes/materials associated with site cleanup would be minimized to the extent practicable.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Other Hazardous Waste/Materials Management: ***No significant impact.*** • Hazardous wastes would be generated and hazardous materials (e.g., petroleum and other products in belowground and aboveground storage tanks, asbestos, lead-based paint (LBP), polychlorinated biphenyl (PCBs), and radioactive materials) would be handled/used during construction and operation activities. • Compliance with regulatory framework would minimize hazards to the public and environment.	**Other Hazardous Waste/Materials Management:** ***No significant impact.*** • Hazardous wastes would be generated and hazardous materials (e.g., petroleum and other products in belowground and aboveground storage tanks, asbestos, LBP, PCBs, and radioactive materials) would be handled/used during construction and operation activities. • Compliance with regulatory framework would minimize hazards to the public and environment.	**Other Hazardous Waste/Materials Management:** ***No significant impact.*** • Navy would continue to generate small quantities of hazardous waste and use small quantities of hazardous materials to conduct caretaker activities. • Asbestos and LBP would remain in on-site buildings. • Compliance with regulatory framework would minimize hazards to the public and environment.
Noise	**Construction Noise:** ***No significant impacts with mitigation.*** • Significant short-term noise impacts on nearby receptors, especially on the western boundary of the property, from the use of heavy equipment and vehicle traffic during construction. **Mitigation**: City of Concord noise control measures for new developments and construction would reduce impacts.	**Construction Noise:** ***No significant impacts with mitigation.*** • Significant short-term noise impacts on nearby receptors, especially on the western boundary of the property, from the use of heavy equipment and vehicle traffic during construction. **Mitigation**: City of Concord noise control measures for new developments and construction would reduce impacts.	**Construction Noise:** ***No impact.*** • No change from current conditions.
	Operational Noise*: No significant impacts with mitigation*. • Overall increase in ambient noise level from vehicular/rail traffic and operation of the commercial, industrial, recreational, and residential land uses of the development. • Long-term increase in traffic noise of generally 1 to 3 A-weighted decibels (dBA) at nearby receptors. The 1 dBA increase would not be perceptible. • Increase in noise level of 7 dBA near Denkinger Road at site boundary. • Short-term moderate impact from increase in noise levels from certain recreational uses. **Mitigation**: City of Concord noise control measures in MMRP such as noise barriers, low-noise road surfaces, and acoustical analyses would reduce impacts.	**Operational Noise*: No significant impacts with mitigation***. • Overall increase in ambient noise level from vehicular/rail traffic and operation of the commercial, industrial, recreational, and residential land uses of the development. • Long-term increase in traffic noise of generally 1 to 3 dBA at nearby receptors. The 1 dBA increase would not be perceptible. • Increase in noise level of 7 dBA near Denkinger Road at site boundary. • Short-term moderate impact from increase in noise levels from certain recreational uses. **Mitigation**: City of Concord noise control measures in MMRP such as noise barriers, low-noise road surfaces, and acoustical analyses would reduce impacts.	**Operational Noise:** ***No impact.*** • No change from current conditions.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Public Services	**Educational Facilities:** ***No significant impacts.*** • Population increase of 31,462 residents would result in 4,924 children requiring educational services. • Reuse would include educational facilities adequate for the demand, in compliance with Concord 2030 General Plan. • Property taxes and other funding sources would support development of the schools.	**Educational Facilities:** ***No significant impacts.*** • Population increase of 40,309 residents would result in 6,309 children requiring educational services. • Reuse would include educational facilities adequate for the demand, in compliance with Concord 2030 General Plan. • Property taxes and other funding sources would support development of the schools.	**Educational Facilities:** ***No impact.*** • No change from current conditions.
	Public Safety, Emergency, and Health Care Facilities: ***No significant impacts.*** • Population increase of 31,462 residents and additional workforce would result in need for additional public safety, emergency, and health care facilities. • Police staffing and equipment would need to be increased at existing City of Concord Police Department facilities. • Fire department staffing and equipment would need to be increased and if it is not feasible to rehabilitate the Inland Firehouse, two new fire stations will be constructed. • New First Responder Training Center planned under Alternative 1 would support city and county public safety departments. • Property taxes and other funding sources would support the increased public safety and emergency facilities. • Additional health care needs would be adequately accommodated by existing hospitals and medical facilities.	**Public Safety, Emergency, and Health Care Facilities:** ***No significant impacts.*** • Population increase of 40,309 residents and additional workforce would result in need for additional public safety, emergency, and health care facilities. • Police staffing and equipment would need to be increased at existing City of Concord Police Department facilities. • Fire department staffing and equipment would need to be increased and if it is not feasible to rehabilitate the Inland Firehouse, two new fire stations will be constructed. • No First Responder Training Center is planned under Alternative 2 to support city and county public safety departments. • Property taxes and other funding sources would support the increased public safety and emergency facilities. • Additional health care needs would be adequately accommodated by existing hospitals and medical facilities.	**Public Safety, Emergency, and Health Care Facilities:** ***No impact.*** • No change from current conditions.
	Open Space, Parks, and Recreation: ***Significant beneficial impacts.*** • Population increase of 31,462 residents and additional workforce would result in need for additional recreational space and facilities. • Alternative 1 provides for 786 acres of greenways, citywide parks, and active recreational areas in the reuse area. • 2,537 acres of the former NWS Concord would be designated as a regional park for passive	**Open Space, Parks, and Recreation:** ***Significant beneficial impacts*** • Population increase of 40,309 residents and additional workforce would result in need for additional recreational space and facilities. • Alternative 2 provides for 786 acres of greenways, citywide parks, and active recreational areas in the reuse area. • 2,537 acres of the former NWS Concord would be designated as a regional park for passive	**Open Space, Parks, and Recreation:** ***No impact.***

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	recreation and open space uses. • Ratio of dedicated parkland space to residents would exceed Concord 2030 General Plan requirements, leading to a long-term beneficial impact.	recreation and open space uses. • Ratio of dedicated parkland space to residents would exceed Concord 2030 General Plan requirements, leading to a long-term beneficial impact.	
Transportation, Traffic and Circulation	**Traffic Volumes and Level of Service (LOS) on Surrounding Roadway Network: *Significant adverse impacts.*** • New roadways on property and connections with existing network. • Projected to add 203,205 daily trips to the new and existing road network. • Twelve intersections, two roadway segments, four freeway segments, and 16 freeway ramps in study area would exceed performance standards. • One roadway segment, two freeway segments, and six freeway ramps that exceed performance standards are not considered adverse impacts requiring mitigation because the volume/capacity v/c ratio under Alternative 1 is the same as or lower than that of the No Action Alternative. • Minor increase in traffic on roadways adjacent to property during construction.	**Traffic Volumes and LOS on Surrounding Roadway Network: *Significant adverse impacts.*** • New roadways on property and connections with existing network. • Projected to add 229,301 daily trips to the new and existing road network. • Thirteen intersections, two roadway segments, four freeway segments, and 16 freeway ramps in study area would exceed performance standards. • One roadway segment, one freeway segment, and four freeway ramps that exceed performance standards are not considered adverse impacts requiring mitigation because the v/c ratio under Alternative 2 is the same as or lower than that of the No Action Alternative. • Minor increase in traffic on roadways adjacent to property during construction.	**Traffic Volumes and LOS on Surrounding Roadway Network: *Significant adverse impact.*** • ***Background growth will lead to significant adverse impacts.*** Nine intersections, one roadway segment, four freeway segments, and 13 freeway ramps in study area would exceed performance standards.
	Mitigation: Traffic demand management (TDM) strategies, site management plans, implementation of minimization and mitigation measures identified in the Area Plan would reduce impacts.	**Mitigation**: TDM strategies, site management plans, implementation of minimization and mitigation measures identified in the Area Plan would reduce impacts.	**Mitigation**: None proposed.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Utilities and Infrastructure	**Water:** ***No significant impact.*** <u>Water Supply and Demand</u> • Estimated demand of 3.2 million gallons per day (mgd) at full build-out, excluding irrigational needs. • Development would fall within the level of growth assumed for the Contra Costa Water District (CCWD) service area. <u>Water Treatment and Distribution</u> • Moderate impact on Randall-Bold Water Treatment Plant (WTP) capacity because upgrades would be needed to serve new development. • Moderate impact on distribution facilities; reuse would include construction of a new water distribution system comprised of both potable water and recycled water components.	**Water:** ***No significant impact.*** <u>Water Supply and Demand</u> • Estimated demand of 3.5 mgd at full build-out, excluding irrigational needs. • Due to similarities to Alternative 1, development would fall within the level of growth assumed for the CCWD service area. <u>Water Treatment and Distribution</u> • Moderate impact on Randall-Bold WTP capacity because upgrades would be needed to serve new development under Alternative 2. • Moderate impact on distribution facilities; reuse would include construction of a new water distribution system comprised of both potable water and recycled water components.	**Water:** ***No impact.*** • No change from current conditions.
	Stormwater and Collection Systems: ***No significant impacts.*** • Reuse would result in a total of approximately 1,442 acres of impervious area, an increase of 301 percent above existing conditions. • Reuse would require new stormwater infrastructure to manage increased flows. • Compliance with regulatory requirements and permit conditions, including: Compliance with local, state, and federal laws regarding stormwater management, including the General Construction Permit, Section 86-39 of the City of Concord's Stormwater Management and Discharge Control Ordinance, and USACE- and Environmental Protection Agency (EPA)-issued regulations governing compensatory mitigation for impacts on streams (40 CFR Part 230) as part of the Section 401/404 permitting process would reduce impacts.	**Stormwater and Collection Systems:** ***No significant impacts.*** • Reuse would result in a total of approximately 1,369 acres of impervious area, an increase of 281 percent above existing conditions. • Reuse would require new stormwater infrastructure to manage increased flows. • Compliance with regulatory requirements and permit conditions, including: Compliance with local, state, and federal laws regarding stormwater management, including the General Construction Permit, Section 86-39 of the City of Concord's Stormwater Management and Discharge Control Ordinance, and USACE- and EPA-issued regulations governing compensatory mitigation for impacts on streams (40 CFR Part 230) as part of the Section 401/404 permitting process would reduce impacts.	**Stormwater and Collection Systems:** ***No impact.*** • No change from current conditions.

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Sanitary Collection and Treatment Systems: ***No significant impacts.*** • Minor impact on Central Contra Costa Sanitary District (CCCSD) Wastewater Treatment Plant (WWTP); estimated demand of approximately 3.7 mgd at full build-out would fall within projected future effluent discharge limitations. • Moderate impact on collection system because upgrades to existing City of Concord and CCCSD collection systems are possible.	**Sanitary Collection and Treatment Systems:** ***No significant impacts.*** • Minor impact on CCCSD WWTP; estimated demand of approximately 5.5 mgd at full build out would fall within projected future effluent discharge limitations. • Moderate impact on collection system because upgrades to existing City of Concord and CCCSD collection systems are possible.	**Sanitary Collection and Treatment Systems:** ***No impact.***

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Other Utilities and Infrastructure: ***No significant impacts***	**Other Utilities and Infrastructure:** ***No significant impacts***	**Other Utilities and Infrastructure:** ***No impact.***
	• Solid Waste and Recycling Management: Fifty percent of solid waste generated from construction and operation activities would be required to be recycled or otherwise diverted from landfills in accordance with state law. • Approximately 90,500 tons of construction and demolition (C&D) waste from construction activities would require landfilling following applicable recycling measures. • Approximately 25,000 tons per year of non-C&D solid waste from operation of the new development (residential, commercial, and industrial activities) would require landfilling following applicable recycling measures. • Due to long build-out period, local landfills are projected to have the capacity to accommodate the waste.	• Solid Waste and Recycling Management: Fifty percent of solid waste generated from construction and operation activities would be required to be recycled or otherwise diverted from landfills in accordance with state law. • Approximately 97,000 tons of C&D waste from construction activities would require landfilling following applicable recycling measures. • Approximately 28,000 tons per year of non-C&D solid waste from operation of the new development (residential, commercial, and industrial activities) would require landfilling following applicable recycling measures. • Due to long build-out period, local landfills are projected to have the capacity to accommodate the waste.	
	• Electricity: Future coordination with Pacific Gas and Electric (PG&E) is needed. New electric connections/infrastructure required, including an on-site 5-acre distribution substation. • Natural Gas: Sufficient capacity in the adjacent existing gas transmission systems to serve new development. New gas connections/distribution system required, including 1-acre gas regulating station.	• Electricity: Future coordination with PG&E is needed. New electric connections/infrastructure required, including an on-site 5-acre distribution substation. • Natural Gas: Sufficient capacity in the adjacent existing gas transmission systems to serve new development. New gas connections/distribution system required, including 1-acre gas regulating station.	
	• Telecommunications: Additional services and the development of new facilities to service new development would be required.	Telecommunications: • Additional services and the development of new facilities to service new development would be required.	

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Visual Resources and Aesthetics	**Scenic Quality and Views:** ***No significant impacts with mitigation.*** • Potential impacts were assessed at a programmatic level because specific plans for development have not yet been approved by the City of Concord. • Scenic quality contrast between current conditions and proposed development would range from none to strong, depending on the key observation point (KOP). • Views of hills, ridgelines, and open space could be substantially changed from some KOPs. **Mitigation**: City of Concord mitigation measures such as light-reducing measures, and light-controlling measures required for development plans would reduce impacts.	**Scenic Quality and Views:** ***No significant impacts with mitigation.*** • Potential impacts were assessed at a programmatic level because specific plans for development have not yet been approved by the City of Concord. • Scenic quality contrast between current conditions and proposed development would range from none to strong, depending on the KOP. • Views of hills, ridgelines, and open space could be substantially changed from some KOPs. **Mitigation**: City of Concord mitigation measures such as light-reducing measures, and light-controlling measures required for development plans would reduce impacts.	***No impact.***

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
Water Resources	**Surface Water:** ***No significant impacts.*** • Disturbance of Mt. Diablo Creek and its riparian corridor. • Temporary increase in erosion and sedimentation rates. • Drainage patterns on the site could be temporarily altered. • Temporary impact associated with new culvert installation and permanent loss of natural drainage course. • Approximately 2.43 acres of jurisdictional other waters impacted through fill because of the development footprint; net loss of 1.43 acres. • Total impervious surface area of 1,442 acres, resulting in increase in quantity of sheet flow (stormwater drainage) and higher peak stream discharges. • Compliance with local, state, and federal laws regarding stormwater management, including the General Construction Permit and Section 86-39 of the City of Concord's Stormwater Management and Discharge Control Ordinance will avoid or minimize impacts on surface waters. **Mitigation**: The USACE- and EPA-issued regulations governing compensatory mitigation for impacts to streams (40 CFR Part 230) as part of the Section 401/404 permitting process would reduce impacts.	**Surface Water:** ***No significant impacts.*** • Disturbance of Mt. Diablo Creek and its riparian corridor. • Temporary increase in erosion and sedimentation rates. • Drainage patterns on the site could be temporarily altered. • Temporary impact associated with new culvert installation and permanent loss of natural drainage course. • Approximately 2.43 acres of jurisdictional other waters impacted through fill because of the development footprint; net loss of 1.43 acres. • Total impervious surface area of 1,369 acres, resulting in increase in quantity of sheet flow (stormwater drainage) and higher peak stream discharges. • Compliance with local, state, and federal laws regarding stormwater management, including the General Construction Permit and Section 86-39 of the City of Concord's Stormwater Management and Discharge Control Ordinance will avoid or minimize impacts on surface waters. **Mitigation**: The USACE- and EPA-issued regulations governing compensatory mitigation for impacts to streams (40 CFR Part 230) as part of the Section 401/404 permitting process would reduce impacts.	**Surface Water:** ***No impact.***

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Wetlands: ***No significant impacts with mitigation.*** • Impacts from direct filling or alteration of hydrology. • Approximately 4.5 acres (net loss of 4.23 acres) of jurisdictional wetlands impacted; the non-jurisdictional wetlands and other waters consist of the golf course ponds and canals and will likely be avoided. **Mitigation**: Compliance with Clean Water Act (CWA) Section 404 and USACE and EPA regulations governing compensatory mitigation for impacts to wetlands (40 CFR Part 230), in coordination with the USACE as part of the City of Concord's site-wide Section 404 Individual Permit or those permits secured by future developers for the Area Plan would reduce impacts. Proposed mitigation includes the creation of a 0.59 acre wetland in conjunction with the expansion and enhancement of an existing salamander and frog breeding pond, and the potential creation of up to 10 acres of wetlands at a spring in the vicinity of the old airfield.	**Wetlands:** ***No significant impacts with mitigation.*** • Impacts from direct filling or alteration of hydrology. • Approximately 4.85 acres of jurisdictional wetlands impacted; the non-jurisdictional wetlands and other waters consist of the golf course ponds and canals and will likely be avoided. **Mitigation**: Compliance with CWA Section 404 and USACE and EPA regulations governing compensatory mitigation for impacts to wetlands (40 CFR Part 230), in coordination with the USACE as part of the City of Concord's site-wide Section 404 Permit or those permits secured by future developers for the Area Plan would reduce impacts.	**Wetlands:** ***No impact.***
	Groundwater: ***No significant impact.*** • Low likelihood of impacts associated with temporary construction activities that could extend below ground surface to a depth that would directly impact the underlying water table. • Increase in imperviousness of site could result in less infiltration of rainfall and limit the potential for groundwater recharge. • If necessary, use of standard dewatering techniques; compliance with storm water permits and management plans and erosion and sediment control plans as required by the San Francisco Bay Regional Water Quality Control Board and other agencies would reduce impacts.	**Groundwater:** ***No significant impact.*** • Low likelihood of impacts associated with temporary construction activities that could extend below ground surface to a depth that would directly impact the underlying water table. • Increase in imperviousness of site could result in less infiltration of rainfall and limit the potential for groundwater recharge. • If necessary, use of standard dewatering techniques; compliance with storm water permits and management plans and erosion and sediment control plans as required by the San Francisco Bay Regional Water Quality Control Board and other agencies would reduce impacts.	**Groundwater:** ***No impact.***

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Water and Groundwater Quality: ***No significant impacts.*** • Clearing and grading activities would cause short-term exposure of soils, leading to erosion and sedimentation. • Temporary impacts during construction and implementation of the in-stream conceptual restoration design concepts due to short-term increases in sediment loads and turbidity in Mt. Diablo Creek. • Additional impervious surface area could lead to accumulation of pollutants picked up by stormwater flows and additional sources of non-point pollution reaching receiving waters such as Mt. Diablo Creek. • Proposed new development would be located within a highly developed area; stormwater runoff would be collected into a stormwater management system. • Compliance with local and state permit requirements, including the General Construction Permit, City of Concord's Stormwater Management and Discharge Control Ordinance and Grading and Erosion Control Ordinance, and CWA Section 404 permit and Section 401 Water Quality Certification would reduce impacts.	**Water and Groundwater Quality:** ***No significant impacts.*** • Clearing and grading activities would cause short-term exposure of soils, leading to erosion and sedimentation. • Temporary impacts during construction and implementation of the in-stream conceptual restoration design concepts due to short-term increases in sediment loads and turbidity within Mt. Diablo Creek. • Additional impervious surface area could lead to accumulation of pollutants picked up by stormwater flows and additional sources of non-point pollution reaching receiving waters such as Mt. Diablo Creek. • Proposed new development would be located within a highly developed area; stormwater runoff would be collected into a stormwater management system. • Compliance with local and state permit requirements, including the General Construction Permit, City of Concord's Stormwater Management and Discharge Control Ordinance and Grading and Erosion Control Ordinance, and CWA Section 404 permit and Section 401 Water Quality Certification would reduce impacts.	**Water and Groundwater Quality:** ***No impact.***
	Floodplains: ***No significant impacts.*** • Approximately 7.3 acres of Zone A floodplain and 1.3 acres of Zone AE floodplain would be impacted by road construction. • Approximately 57.7 acres of 100-year floodplains would be impacted by implementation of Alternative 1. • A Federal Emergency Management Agency (FEMA) hydraulic model of Mt. Diablo Creek would be developed and used to delineate and map the 100-year floodplain within the former NWS Concord.	**Floodplains**: ***No significant impacts.*** • Approximately 8.3 acres of Zone A floodplain and 1.3 acres of Zone AE floodplain would be impacted by road construction. • Approximately 57 acres of 100-year floodplains would be impacted by implementation of Alternative 2. • FEMA hydraulic model of Mt. Diablo Creek would be developed and used to delineate and map the 100-year floodplain within the former NWS Concord.	**Floodplains:** ***No impact.***

Table 2-4 Comparison of Environmental Consequences

Resource	Alternative 1 (preferred)	Alternative 2	No Action Alternative
	Mitigation: Once delineation of floodplains within the former NWS Concord is completed, comparison to modeled post-development hydrologic and hydraulic conditions would be conducted to determine whether any modifications to the floodplain would result. City of Concord will require a Conditional Letter of Map Revisions from FEMA to demonstrate that 100-year design flow is contained within Mt. Diablo Creek. Conceptual design elements for Mt. Diablo Creek and 40-acre detention basin would address 100-year flood event would reduce impacts.	**Mitigation**: Once delineation of floodplains within the former NWS Concord is completed, comparison to modeled post-development hydrologic and hydraulic conditions would be conducted to determine whether any modifications to the floodplain would result. City of Concord will require a Conditional Letter of Map Revisions from FEMA to demonstrate that 100-year design flow is contained within Mt. Diablo Creek. Conceptual design elements for Mt. Diablo Creek and 40-acre detention basin would address 100-year flood event would reduce impacts.	

This page intentionally left blank.

3 Affected Environment

3.1 Introduction

Chapter 3 provides a description of the existing environment for human and natural environmental resources that may be potentially affected by the proposed action. The following resource areas are evaluated in Chapter 3: land use and zoning (3.2); socioeconomics and environmental justice (3.3); air quality and greenhouse gases (3.4); biological resources (3.5); cultural resources (3.6); topography, geology, and soils (3.7); hazards and hazardous substances (3.8); noise (3.9); public services (3.10); transportation, traffic, and circulation (3.11); utilities and infrastructure (3.12); visual resources and aesthetics (3.13); and water resources (3.14).

Data used to describe the existing environment are from government agency websites or publicly available documents, published literature, personal contacts, field surveys, and other references, as cited in this chapter. To the extent feasible, data presented are current as of 2012, when data collection began for preparation of the Draft EIS. However, prior to finalizing the EIS, the Navy considered updated information relevant to the context or presentation of existing conditions or in response to public comments on the Draft EIS (see Section 1.10 for additional discussion).

The data presented in Chapter 3 may differ from the data presented in the City of Concord's FEIR (City of Concord 2010) and FEIR Addendum (City of Concord January 2012a). The Navy's EIS is based on an independent analysis and relies on baseline information that may have changed since the city's FEIR and FEIR Addendum were prepared. However, field surveys, including wetland delineations and surveys for threatened and endangered species, conducted for the preparation of the city's FEIR are still considered relevant and have been cited where used to describe the existing natural environment.

The former NWS Concord was closed in 2008 and is currently in Navy caretaker status. Therefore, the existing environment of the former NWS Concord does not include the time period when NWS Concord was operational.

An analysis of the potential impacts on the resources described in this chapter is presented in Chapter 4.

3.2 Land Use and Zoning

This section summarizes land use designations of the communities located adjacent to the former NWS Concord at the regional scale, land uses that border the former NWS Concord site, and existing land uses on-site. Regional and local land use plans and regulations, including general plans and zoning ordinances of localities adjacent to the installation, are also discussed.

3.2.1 On-site Land Use

Land Use and Existing Development

The former NWS Concord was closed in 2008 and is currently in Navy caretaker status. The total area of the surplus property is 4,972 acres. Approximately 90 percent of the former NWS Concord site is currently being used for livestock grazing. Several agricultural research areas are located on-site, north of Bailey Road, and consist of plots dedicated to the cultivation of non-native trees, eucalyptus, and pine. Trees were planted on approximately 90 acres by the U.S. Forest Service (USFS) Institute of Forest Genetics as experimental plantings (Tetra Tech, Inc. 2002). As further discussed in Section 3.5, these research areas are no longer maintained by the USFS due to a loss of sponsorship funding.

Existing development on the site includes ammunition bunkers (also known as magazines), buildings, and other infrastructure, such as access roads and rail lines, that supported the former naval operations on-site. Development is not distributed equally across the site. The large area south of SR 4 and northwest of Bailey Road includes unused warehouses and other former military buildings along with an extensive network of roadways and rail lines. The decommissioned earth-covered ammunition bunkers (known as "Bunker City") are primarily located in the southern portion of the installation, northwest of Bailey Road. An abandoned concrete runway is located in the area bordered by Willow Pass Road and Olivera Road. Little League baseball fields are located on a 6-acre parcel west of Olivera Road.

Naval administration, maintenance, and storage buildings along with portions of the Diablo Creek Golf Course are located north of SR 4 in an area known as the former Administrative Area. The existing main entrance is located in this area, and the majority of buildings are not in use. A portion of the Diablo Creek Golf Course, a total of 75 acres, is located on Navy-owned land and is leased to the City of Concord.

A chain link security fence topped with barbed wire surrounds the installation, and security and livestock fencing are located throughout the site.

The primary roadways that traverse or provide access to the former NWS Concord site include Bailey Road, Willow Pass Road, Port Chicago Highway, and SR 4. Bailey Road traverses the southern portion of the installation and connects Clayton Road to the City of Pittsburg. Willow Pass Road traverses the northern portion of the site and connects downtown Concord with SR 4. The North Concord/Martinez BART Station is located along Port Chicago Highway, at the western edge of the site. SR 4 bisects the northern portion of the installation. Kinne Boulevard, which is located on-site along the east bank of Mt. Diablo Creek, runs from the northern portion of the site to Bailey Road in the south.

Easements

The property is encumbered by several easements that provide for 20- to 25-foot-wide pipeline rights of way. These easements are owned by Shell Pipeline Company for a 20-inch pipeline, Kinder Morgan for a 10-inch pipeline, and ConocoPhillips for a 16-inch pipeline.

Canals

Two canals owned by the U.S. Bureau of Reclamation also traverse the former NWS Concord site. The Contra Costa Canal, which was constructed in 1948, is a primary component of the Contra Costa Water District (CCWD) and delivers water from the San Francisco Bay Delta to the district's treatment facilities and water customers. This active canal is 48 miles long and extends from Rock Slough in eastern Contra Costa County to the Terminal Reservoir in Martinez (CCWD 2006). The portion of the Contra Costa Canal that traverses the former NWS Concord site is approximately 3.7 miles long. The Contra Costa Canal enters the site north of SR 4 before crossing under the highway and the BART rail line through a culvert. The canal traverses a hilly area on the former NWS Concord south of SR 4 and exits the site west of the intersection of Willow Pass Road and St. Vincente Drive. The canal has a bottom width of 24 feet (U.S. Bureau of Reclamation 1994).

The Clayton Canal branches off the Contra Costa Canal south of Willow Pass Road and extends through the site north of Kinne Boulevard, exiting the former NWS Concord at Denkinger Road (see Section 3.14, Water Resources, and Figure 3.14-1). This canal was also constructed in 1948, has a length of 4.8 miles, and has a bottom width of 4 feet (U.S. Bureau of Reclamation 1994). The Clayton Canal is abandoned and has not been used to convey water for more than 20 years, but similarly to the Contra Costa Canal, it is monitored and maintained by the CCWD (Navy April 2006; City of Concord 2013c). See Figure 3.2-1 for the locations of land uses, existing development, roadways, and easements.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Existing_Landuse_at_NWS_Concord.mxd

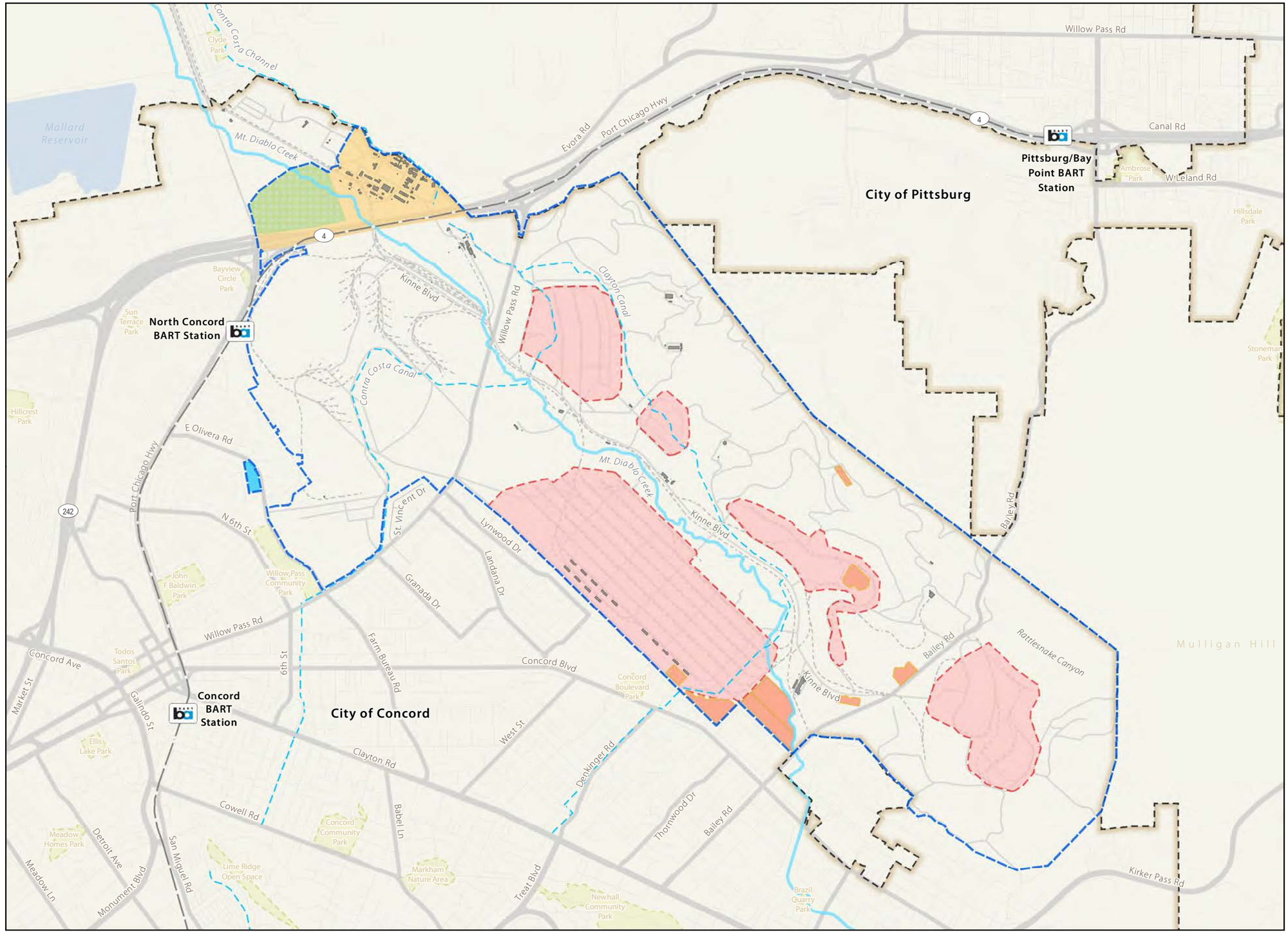


Figure 3.2-1
Existing Land Use
Former NWS Concord
Concord, California

Legend

- Bay Area Rapid Transit (BART) Station
- Bay Area Rapid Transit (BART) Line
- Canal/Channel
- Mt. Diablo Creek
- Former NWS Concord
- City Limits
- Waterbody

On-Site Land Uses

- Installation Railroad
- Agricultural Research Area
- Ball Field
- Golf Course
- Magazine Area
- Operational / Administrative
- Housing
- Buildings

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2004, 2011.

This page intentionally left blank.

3.2.2 Regional Land Use

The former NWS Concord lies within the City of Concord's northeast quadrant (see Figure 3.2-2). The City of Concord is located in Contra Costa County and is bordered by the City of Walnut Creek to the south, the City of Clayton to the southeast, the City of Pittsburg and the unincorporated community of Bay Point to the northeast, the unincorporated community of Clyde to the north, and the cities of Martinez and Pleasant Hill to the west. The City of Concord is connected to the cities of Pittsburg, Pleasant Hill, Walnut Creek, Lafayette, Orinda, and other communities in the Bay Area through the BART system. The BART system has two stations in the City of Concord, the North Concord/Martinez BART Station located on Port Chicago Highway adjacent to the northwest border of the former NWS Concord site and the Concord BART Station, located on Oakland Avenue south of downtown Concord. Interstate Highway (I-) 680, SR 242, and SR 4 are the three main highways that serve the former NWS Concord site directly or indirectly.

Single-family residential is the primary existing land use in the City of Concord, accounting for approximately 32 percent of land in the city. Military land use, including the former NWS Concord, accounts for the next largest percentage of land use within the city, at 25 percent. Mixed-use development and commercial land uses are located in the City of Concord's downtown near the Concord BART Station and along transportation routes that connect to downtown such as Clayton Road, Monument Boulevard, Willow Pass Road, and the intersection of SR 242 and I-680 (City of Concord 2012). The downtown Concord BART Station area is surrounded by mixed-use, higher density, TOD (City of Concord 2010.) Industrial uses are located north of SR 4 and south of Monument Boulevard. According to the Concord 2030 General Plan, at Plan build-out, low-density residential will remain the primary land use designation within the City of Concord's Planning Area[1], followed by open space, rural conservation, and wetlands/resource conservation (City of Concord 2012).

The City of Pittsburg is located northeast of the site, with single-family residences and open space comprising the area of the city closest to the former NWS Concord (see Figure 3.2-2). The installation is separated from the City of Pittsburg's city limits by a strip of unincorporated land.

Contra Costa County surrounds the City of Concord on the city's northern, eastern, and southeastern boundaries and includes a diverse mix of land uses including areas of agricultural, industrial, public and semi-public, single-family residential, multiple-family residential, and open space uses (see Figure 3.2.-2). Industrial uses, including two refineries, are located in the waterfront area along the Suisun Bay north of the City of Concord. Parks and recreation land uses, including public and semi-public land uses, and the U.S. Army Military Ocean Terminal Concord (formerly part of NWS Concord) are also situated along the Suisun Bay waterfront (City of Concord 2014). Mount Diablo is located southeast of the City of Concord. Therefore, agriculture and parks and recreation are the primary land uses located east and southeast of the city. The City of Clayton, a small residential community, borders the City of Concord to the southeast, at the base of Mount Diablo. The City of Clayton's land use consists of a mix of low- and high-density single-family residential, low-density multiple family residential, commercial, open space, and parks and recreation (City of Concord 2010).

The City of Walnut Creek, located south of the City of Concord, and the cities of Pleasant Hill and Martinez, located west of the City of Concord, have a development pattern that is concentrated along regional transportation routes. Light industrial parks, commercial uses, and office land uses are located along main transportation corridors in the region such as I-680 and SR 4. The BART station areas in Pleasant Hill and Walnut Creek have experienced some mixed-use, higher-density transit-oriented

[1] The City of Concord's Planning Area is defined in the Concord 2030 General Plan as land outside its boundaries which, in the planning agency's judgment, bears relation to its planning.

development. On the whole, high-, medium-, and low-density multiple family residential and high-density single-family residential uses are located closer to the transportation corridors in these cities. Medium to very low-density single-family residential is located farther away from the main transportation corridors. Areas of open space and parks and recreation land uses, such as the John Muir National Historic Site and Briones Regional Park, are also located west of the City of Concord.

3.2.3 Adjacent Land Use

The installation is surrounded by primarily low-density residential development consisting of detached single-family homes, auto-oriented commercial uses, and agricultural/grazing land uses. The following description provides an overview of land uses in the City of Concord and Contra Costa County located adjacent to the former NWS Concord.

North

The predominant land uses north of SR 4 include office and light industrial along Port Chicago Highway, and a portion of Diablo Creek Golf Course. The Arnold Industrial Area, a series of light industrial buildings built over the last few decades, is located west of the Diablo Creek Golf Course and north of SR 4 in the City of Concord. Clyde, a small unincorporated residential community, is located north of the installation along Port Chicago Highway. Several small neighborhood parks are located in Clyde, including Clyde Park, Rail Trail Park, and Maybeck Park. The community is mostly built out, with single-family homes accounting for the majority of the development. The few vacant properties that remain in Clyde are being developed at a density of less than six units per acre.

The Willow Pass Business Park is located north of SR 4 on the east side of the former Administrative Area in unincorporated Contra Costa County. The business park can accommodate approximately 350,000 square feet of commercial and light industrial buildings and business condominiums. A gas station and retail use are also located in the business park. Agricultural lands are located north of the business park and east of the former Administrative Area and Clyde. In addition, 115 acres of the former Administrative Area located east of the golf course was transferred to the Army in 2008. This area will be developed as an administrative support area for the Military Ocean Terminal Concord, located along the Suisun Bay (City of Concord 2014; Contra Costa County 2010).

East

Undeveloped open space along the highlands of the Los Medanos Hills and agricultural land are the primary land uses adjacent to the eastern boundary of the installation. Contra Costa County is the main jurisdiction to the east of the former NWS Concord, along with the southwestern portion of the City of Pittsburg. A portion of the Los Medanos Hills east of the installation is also part of the official Planning Area of the City of Concord and the City of Pittsburg. Single-family residences and open space areas are located in the area of the City of Pittsburg closest to the former NWS Concord. The active Keller Canyon Landfill is located east of Bailey Road and borders the eastern edge of the former NWS Concord. The landfill is approximately 2,600 acres with 244 acres permitted for disposal (City of Concord 2010; City of Pittsburg 2001).

South

Land uses adjacent to the southern boundary of the installation include residential (including community uses such as churches) and undeveloped open space. Most of the undeveloped open space is located in the Los Medanos Hills. Residential areas are located between the base of the Los Medanos Hills and Myrtle Drive. Kirker Pass Road, a major arterial, is also located south of the site. The Sleep Train Pavilion, a major outdoor concert amphitheater, is located off of Kirker Pass Road. As described in Section 3.2.3, Regional Land Use, the small City of Clayton, a residential community, is located southeast of the installation. Land uses in the City of Clayton that border the installation include parks and recreation,

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Regional_Landuses_V6.mxd

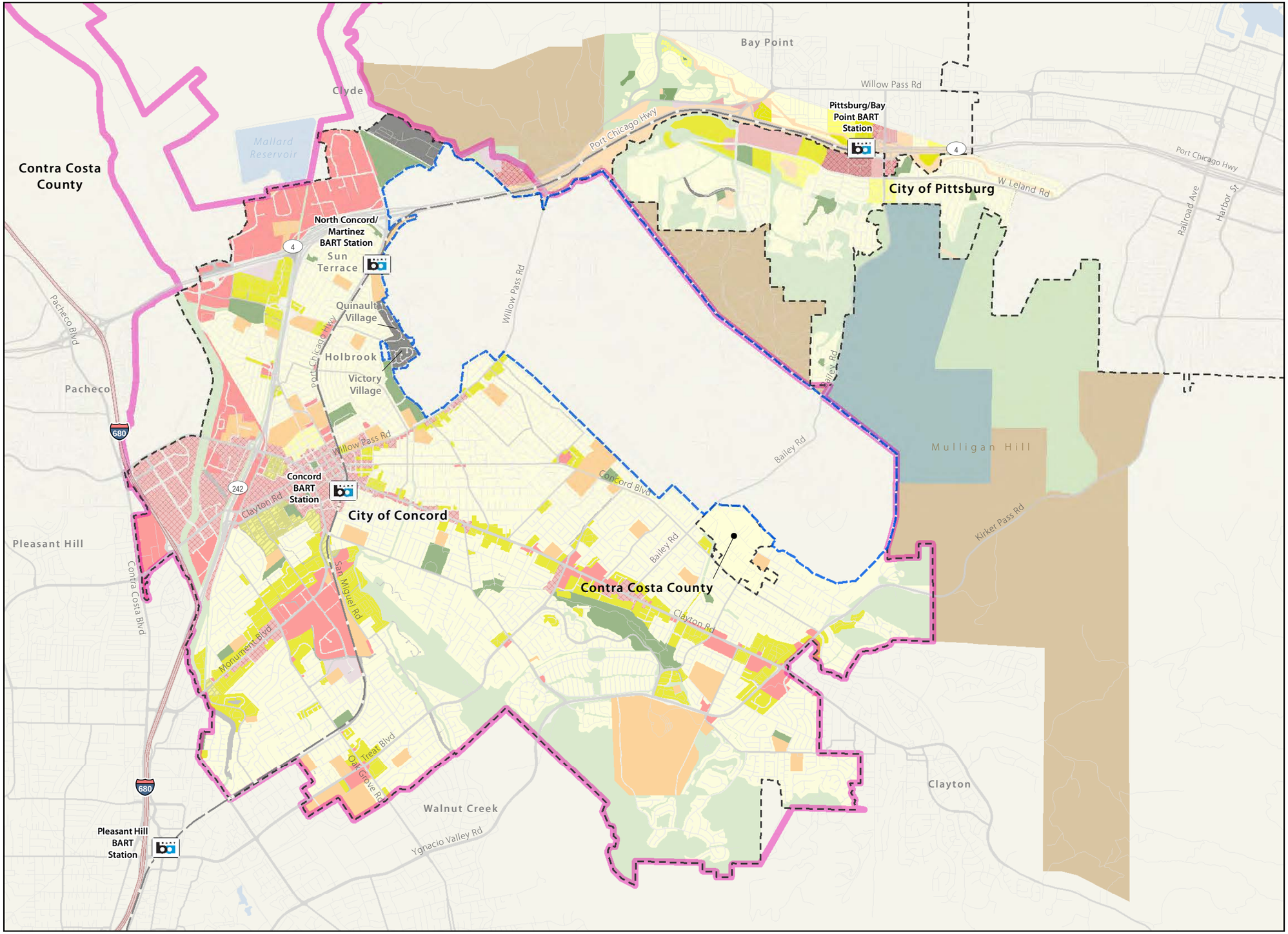


Figure 3.2-2

Regional Land Use Designations

Former NWS Concord

Concord, California

Legend

- Bart Station
- Bay Area Rapid Transit (BART) Line
- Former NWS Concord
- City Limits
- Urban Limit Line
- Roadway

Land Use

- Agriculture Lands
- Low Density Residential
- Medium Family Residential
- High Density Residential
- Very High Density Residential
- Mixed Use
- Commercial
- Landfill
- Industrial
- Military
- Open Space
- Parks and Recreation
- Public/Semi-Public /Institutional
- Unclassified

N

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2012; City of Pittsburg, 2008; City of Concord, 2014.

This page intentionally left blank.

commercial, and high-, low-, and very low-density single-family residential land uses. An unincorporated area along the southern edge of the installation known as the County Island is located along Myrtle Drive between Bailey Road and Kirker Pass Road. This area consists primarily of single-family residential (City of Concord 2010).

West

Single- and multi-family residential areas dominate the western boundary of the installation, with schools and parks interspersed throughout. The primary land use bordering the western edge of the installation is low-density residential (2.5 to 10 dwelling units per acre). Bayview Circle Park is located northwest of the North Concord/Martinez BART Station. One commercial shopping area is located on Concord Boulevard north of Concord High School. In addition, Victory Village and Quinault Village are former Navy multi-family residential areas located along the western edge of the installation and adjacent to Olivera Road, and are now owned and maintained by the U.S. Coast Guard (City of Concord 2010).

3.2.4 Regulatory Framework

3.2.4.1 Regional

Bay Area Rapid Transit District

BART is a regional public transportation system that serves the San Francisco Bay Area. The BART Strategic Plan was adopted in 2008 to increase mobility and accessibility to public transit services, strengthen economic prosperity, and preserve the environment. The BART Strategic Plan identifies the following implementation strategies related to the proposed reuse of the former NWS Concord (BART 2008):

- Develop alliances with our transit partners and the community to maximize connectivity and to facilitate multi-modal access including transit, bicycling, and walking.
- Work with community partners to maximize support for TODs [transit oriented developments], to enhance the livability and vitality at our [BART] stations, and to support regional goals.

BART's Strategic Plan Framework was adopted in 2015. The 2015 Strategic Plan Framework provides broad strategies for FY 2016 - FY 2020, including capacity expansion and managing demand, engaging the community, connecting and creating great places, and advancing sustainability (BART 2015).

In addition to the strategic plan, BART developed a TOD policy to promote more intensive, higher-density development near BART-owned properties, such as light rail stations. The policy includes the following goals related to land use (BART 2016):

- Ridership: Increase BART ridership, particularly in locations and times when the system has capacity to grow.
- Complete Communities: Partner to ensure BART contributes to neighborhood/district vitality, creating places offering a mix of uses and incomes.
- Sustainable Communities Strategy: Lead in the delivery of the region's land use and transportation vision to achieve quality of life, economic, and greenhouse gas reduction goals.

- Transportation Choice: Leverage land use and urban design to encourage non-auto transportation choices, both on and off BART property, through enhanced walkability and bikeability, and seamless transit connectivity.

Association of Bay Area Governments

The Association of Bay Area Governments (ABAG) includes cities, counties, and special service districts in the Bay Area, including Contra Costa County, the City of Concord, and the City of Pittsburg. In 2008, ABAG adopted its Strategic Plan, which identifies the following goals that are applicable to land use at the former NWS Concord (ABAG 2008):

- Foster a regional growth pattern that creates complete communities with ready, close, and safe access to employment, shopping, amenities and services and where transit is in place, well-coordinated, and available.
- Protect, conserve, and restore critical habitats, working landscapes, recreational areas, and networks, and other regionally significant resource areas.

Plan Bay Area: Strategy for a Sustainable Region

The Plan Bay Area outlines a strategy for future growth in the region—in a manner that accommodates future growth while doing so in a sustainable manner. The Plan Bay Area was triggered by the California Sustainable Communities and Climate Protection Act of 2008, which requires each of the state's metropolitan areas to reduce GHG emissions from cars and light trucks. This law requires that the Bay Area and other regions develop a Sustainable Communities Strategy to help to reach the GHG reduction target. The Plan Bay Area, as developed by the ABAG and Metropolitan Transportation Commission (MTC), includes the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan, two key elements of the plan (ABAG and MTC 2013).

The land use pattern outlined in the Plan Bay Area seeks to achieve four primary objectives, each of which is applicable to what is envisioned for reuse at the former NWS Concord (ABAG and MTC 2013):

1. Create a network of complete Communities. Building on the Priority Development Areas framework of complete communities that include housing and transportation choices, the plan envisions neighborhoods where transit, jobs, schools, services, and recreation are conveniently located near people's homes.
2. Increase the accessibility, affordability, and diversity of housing. The distribution of housing in the Bay Area is critical, given its importance to individuals, communities, and the region as a whole. The Bay Area needs sufficient housing options to attract the businesses and talented workforce needed for a robust future economy.
3. Create jobs to maintain and expand a prosperous and equitable regional economy. The plan seeks to reinforce the Bay Area's role as one of the most dynamic regional economies in the U.S. It focuses on expanding the existing concentration of knowledge-based and technology industries in the region, which is a key to the Bay Area's economic competitiveness.
4. Protect the Region's unique natural environment. The Bay Area's greenbelt of agricultural, natural resource, and open space lands is a treasured asset that contributes to residents' quality of life and supports regional economic development.

Bay Area Regional Collaborative

The Bay Area Regional Collaborative, also known as the Joint Policy Committee, coordinates planning efforts between ABAG, the Bay Area Air Quality Management District (BAAQMD), Bay Conservation

and Development Commission, and Metropolitan Transportation Commission. The committee, led by ABAG and the Metropolitan Transportation Commission, prepared FOCUS, a development and conservation strategy that promotes compact development. FOCUS includes the following goals and strategies that are applicable to the proposed reuse of the former NWS Concord (Bay Area Joint Policy Committee 2009):

- Encourage infill and the efficient use of land capacity within existing communities.
- Provide for compact, complete, resource-efficient communities near existing or planned transit and other infrastructure.
- Encourage a mix of land uses with jobs, housing, retail, schools, parks, recreation, and services in proximity.
- Locate development in areas served and likely to be served by frequent passenger rail, bus, and/or ferry service.
- Protect and enhance significant open space and recreation areas and networks.

East Bay Regional Park District

The EBRPD manages 65 regional parks and 121,000 acres of land in Contra Costa and Alameda counties. Overall, the goal of the EBRPD is "to preserve and provide access to the best remaining open lands in the East Bay through a connected system of regional parklands that preserve water resources, native plants, wildlife habitat, traces of the history of human occupation and use of this area" (EBRPD 2013a). It is governed by a publicly elected board of directors, which approved the EBRPD Master Plan 2013 in July 2013. The EBRPD Master Plan 2013 provides the mission and vision for the EBRPD and outlines policies for resource management, natural resource management, cultural resource management, public access, interpretation and recreation services, regional facilities and areas, balanced parkland distribution, and planning for regional parks and trails, as well as key elements of the planning process, acquisition, public service, human resources, financial resources, and the annual budget.

One of the EBRPD's policies is to classify existing and potential parklands as one of the following: 1) regional park, 2) regional preserve, 3) regional recreation area, 4) regional shoreline, or 5) regional trail. The EBRPD Master Plan 2013 recognizes the "Concord Hills Regional Park," formerly NWS Concord, as a potential new regional park within the district.

Under the EBRPD's classification system, a regional park must be 500 acres or more, including land and water. It must have scenic or natural resources in at least 70 percent of its area. A regional park must have the capacity to accommodate a variety of recreational activities; however, these activities, in a designated Recreation/Staging Unit, may not take place in more than 30 percent of its area.

EBRPD policies applicable to the development of regional parks include:

Natural Resource Management (NRM)

- **NRM1a:** The District will maintain, manage, conserve, enhance, and restore park wildland resources to protect essential plant and animal habitat within viable, sustainable ecosystems.
- **NRM1b:** To help mitigate the effects of climate change, the District will endeavor to conserve and connect habitat for native species through its acquisition and planning processes.

- **NRM2:** Plant and animal pest species will be controlled by using integrated pest management (IPM) procedures and practices adopted by the Board of Directors. The District will employ IPM practices to minimize the impact of undesirable species on natural resources and to reduce pest-related health and safety risks to the public within developed facilities and/or high-use recreational areas.
- **NRM3:** The District will manage park wildlands using modern resource management practices based on scientific principles supported by available research. New scientific information will be incorporated into the planning and implementation of District wildland management programs as it becomes available. The District will coordinate with other agencies and organizations in a concerted effort to inventory, evaluate, and manage natural resources and to maintain and enhance the biodiversity of the region.
- **NRM4:** The District will identify, evaluate, conserve, enhance, and restore rare, threatened, endangered, or locally important species of plants and animals and their habitats, using scientific research, field experience, and other proven methodologies. Populations of listed species will be monitored through periodic observations of their condition, size, habitat, reproduction, and distribution. Conservation of rare, threatened, and endangered species of plants and animals and their supporting habitats will take precedence over other activities if the District determines that the other uses and activities would have a significant adverse effect on these natural resources.
- **NRM5:** The District will maintain and manage vegetation to conserve, enhance, and restore natural plant communities; to preserve and protect populations of rare, threatened, endangered, and sensitive plant species and their habitats; and, where possible, to protect biodiversity and to achieve a high representation of native plants and animals.
- **NRMS8:** The District will conserve, enhance and restore biological resources to promote naturally functioning ecosystems. Conservation efforts may involve using managed grazing in accordance with the District's Wildland Management Policies and Guidelines, prescribed burning, mechanical treatments, IPM, and/or habitat protection and restoration. Restoration activities may involve removing invasive plants and animals or native or naturalized species adapted to or representative of a given site.
- **NRMl2:** The District will manage riparian and other wetland environments and their buffer zones to preserve and enhance the natural and beneficial values of these important resources and to prevent the destruction, loss, or degradation of habitat. The District will participate in the preservation, restoration, and management of riparian and wetland areas of regional significance and will not initiate any action that could result in a net decrease in park wetlands. The District will encourage public access to the Bay/Delta shoreline but will control access to riparian and wetland areas, when necessary, to protect natural resources.

Cultural Resource Management (CRM)

- **CRMl:** The District will manage, conserve, and, when practicable, restore parkland cultural and historic resources and sites to preserve the heritage of the people who occupied this land before the District was established.
- **CRM2**: The District may acquire cultural and historic resource sites when they are within lands that meet parkland acquisition criteria and will maintain an active archive of its institutional history and the history of its parklands and trails.

CRM3: The District will maintain a current map and written inventory of all cultural features and sites found on parkland and will preserve and protect these cultural features and sites "in situ" in accordance with Board policy. The District will evaluate significant cultural and historic sites to determine whether they should be nominated for State Historic Landmark status or for the National Register of Historic Places (NRHP).

- **CRM4:** The District will determine the level of public access to cultural and historic resources using procedures and practices adopted by the Board of Directors. The District will employ generally accepted best management practices (BMPs) to minimize the impact of public use and access on these resources and to appropriately interpret the significance of these resources on a regional scale.
- **CRM5:** The District will include Native American and other culturally associated peoples in discussions regarding the preservation and land use planning of sites and landscapes significant to their culture.
- **CRM6:** The District will try to accommodate requests by historic preservation groups, Native Americans, and other culturally affiliated groups to help maintain and use cultural sites and to play an active volunteer role in their preservation and interpretation.

Recreational Facilities and Areas (RFA)

- **RFA2:** The District will provide a diverse system of trails to accommodate a variety of recreational users, including hikers and joggers, dog owners, bicyclists, and equestrians. Both wide and narrow trails will be designed and individually designated to accommodate either single or multiple users, as appropriate, based on location, recreational intensity, and environmental and safety considerations.
- **RFA4:** The District will expand its unpaved multi-use trail system as additional acreage and new parks are added. The District will continue to provide multi-use trails to link parks and to provide access to park visitor destinations.
- **RFA5:** The District will continue to plan for and expand the system of paved, multi-use regional trails connecting parklands and major population centers.
- **RFA6:** The District will continue to develop group and family picnic facilities throughout the parks system and will continue to improve the reservation system.
- **RFA10:** The District will continue to provide special recreational facilities throughout the parklands to broaden the range of opportunities in the parks and to take advantage of existing resources. The District will ensure that these facilities are compatible with the District's vision and mission, with other parkland resources and priorities, and with public needs and demands.

Planning for Regional Parks and Trails (PRPT)

- **PRPT12:** To protect park resources while providing for regional recreational use and access, the District will prepare plans (land use plans or system-wide plans) that describe:
  - the various levels of resource protection and recreational intensity in the parks;
  - development projects and land management strategies for trails and parks; and
  - planning efforts that will include consideration of proposals from the public. The District will strive to create and maintain up-to-date information about each of its

parks. Significant changes or amendments to adopted plans will require further public comment and Board action.

- **PRPT13:** Land use plans will identify future resource management strategies and recreational use for entire parks and establish appropriate land use designations. The District will continue to prepare land use plans for new parks and will amend existing land use plans as needed to accommodate growth and change.
- **PRPT17:** Where trail alignment is not predetermined by a relationship to established corridors such as roads, railroad rights-of-way, canals, utility corridors, or similar facilities, the District will prepare a study or a plan for the trail, taking into account any factors it deems relevant to alignment and feasibility. After determining a feasible trail alignment, the District will seek to acquire the necessary land tenure and develop the trail for public use. The District may acquire a wider corridor for a proposed trail to provide an enhanced environment for the trail before determining the final alignment for the trail.
- **PRPT24:** The District will seek to locate facilities in a manner that preserves open space whenever possible. The District will design proposed facilities so that their color, scale, style, and materials will blend with the natural environment. Park improvements will be designed to avoid or minimize impacts on wildlife habitats, plant populations, and other resources.
- **PRPT27:** The District will fully comply with the requirements of the CEQA for the development of new facilities. Evidence of CEQA compliance will be provided in the planning document or separately as a project-specific CEQA document. The District will also comply, when appropriate, with the National Environmental Policy Act (NEPA) (Holt 2014a).

The EBRPD prepares land use plans as long-range plans for individual parks in the district. For land use planning, the EBRPD inventories and evaluates existing facilities and natural and cultural resources; recommends management and conservation programs for these resources; addresses planning issues and documents relevant policies; and presents proposals for future recreational and service facilities. The EBRPD will also establish land use designations in the plan that detail the level of resource protection and recreational intensity (EBRPD 2014d).

Since the release of the Draft EIS, the EBRPD has begun development of the Concord Hills Regional Park Land Use Plan. The vision and guiding principles for the Concord Hills Regional Park include:

- Resource protection for natural and cultural resources;
- Resource enhancement, restoration, and mitigation;
- Public access and recreation; and
- Development of environmental education and interpretation programs and facilities (EBRPD 2017).

As the long-range plan for the park, the Land Use Plan will incorporate measures of the Long-Term Management Plan as indicated in the USFWS Biological Opinion (see Appendix I). The EBRPD will be responsible for completing environmental review of this plan as required under CEQA. Any implementation of the Land Use Plan involving construction projects will require further review and permitting from a variety of agencies including the City of Concord.

3.2.4.2 Local

Contra Costa County

General Plan. The Contra Costa General Plan was adopted in 2005 to guide decisions pertaining to the future development and conservation of resources in the county through 2020. The land use element divides the county into several different land use designations to provide for the orderly development of the unincorporated areas of the county. County land use designations adjacent to the installation include the following (Contra Costa County 2010) (see Figure 3.2-2):

- Single-Family Residential, Low Density
- Single-Family Residential, High Density
- Agriculture Lands
- Landfill
- Public and Semi-Public
- Willow Pass Business Park Mixed-Use
- Open Space
- Light Industrial

In addition, the land use element identifies several goals and policies that guide development in unincorporated areas of the county. The following goals and policies are applicable to the proposed reuse of the former NWS Concord (Contra Costa County 2010):

> **3-E:** To recognize and support existing land use densities in most communities, while encouraging higher densities in appropriate areas, such as near major transportation hubs and job centers.
>
> **3-11:** Urban uses shall be expanded only within an Urban Limit Line where conflicts with the agricultural economy will be minimal.
>
> **3-12:** Preservation and buffering of agricultural land should be encouraged as it is critical to maintaining a healthy and competitive agricultural economy and assuring a balance of land uses. Preservation and conservation of open space, wetlands, parks, hillsides and ridgelines should be encouraged as it is crucial to preserve the continued availability of unique habitats for wildlife and plants, to protect unique scenery, and to provide a wide range of recreational opportunities for County residents.

An integral component of the general plan and land use element is the establishment of an urban limit line to preserve agricultural land, open space, and other sensitive areas. The urban limit line is the primary policy that enforces the 65/35 Land Preservation Standard[2]. Urban land uses and development within the urban limit line are allowed and subject to the goals and policies of the general plan, whereas urban development outside of the line is prohibited. Figure 3.2-2 shows the location of the urban limit line in

[2] The 65/35 Land Preservation Standard maintains that 65 percent of the county shall be preserved as open space, agriculture, or other non-urban land uses, and 35 percent shall be limited to urban development within and beyond the urban limit line (Contra Costa County 2010).

relation to the installation. As shown on the figure, the installation is located entirely within the urban limit line and the City of Concord.

Zoning Ordinance. The Contra Costa County zoning ordinance was adopted to guide the physical development of the unincorporated portions of the county and to protect the public health, safety, and welfare. The zoning ordinance establishes zoning districts wherein land uses are regulated to provide for the orderly development of the county. Each zone establishes density and permitted, conditionally permitted, and prohibited uses, and regulates the building height and footprint of allowed structures. The installation is located adjacent to the following zones in Contra Costa County (Contra Costa County n.d.[a]):

- A-2 (General Agricultural District)
- A-3 (Heavy Agricultural District)
- A-4 (Agricultural Preserve District)
- L-1 (Light Industrial District)
- R-6 (Single-family Residential District, 6,000 square feet per dwelling unit)
- R-10 (Single-family Residential District, 10,000 square feet per dwelling unit
- R-15 (Single-family Residential District, 15,000 square feet per dwelling unit)
- R-20 (Single-family Residential District, 20,000 square feet per dwelling unit)
- R-40 (Single-family Residential District, 40,000 square feet per dwelling unit)
- P-1 (Planned Unit District)
- H-1 (Heavy Industrial District)

City of Concord

General Plan. The Concord 2030 General Plan was adopted by the City of Concord in 2010 to be the city's long-range vision for maintaining the quality of life and promoting economic development through the year 2030. The land use element is an integral component of the general plan and the primary component that guides future development. The land use element divides the city into several land use designations to guide future development within the city. In 2012, the general plan was amended to incorporate changes reflecting the city's increased growth potential attributable to the Navy's disposal of the former NWS Concord. The general plan was amended to incorporate the Area Plan and to reflect its inclusion in all citywide elements. Land use designations identified for the former NWS Concord in the Area Plan are summarized in the Concord 2030 General Plan as shown in Table 3.2-1.

Table 3.2-1 Former NWS Concord Development and Other Districts

Category (General Plan Citywide Land Use Map)	Development/Other District (Area Plan District)
Transit-Oriented Development (TOD)	North Concord TOD Core
	North Concord TOD Neighborhood
Neighborhoods	Central Neighborhood
	Village Center
	Village Neighborhood
Civic and Institutional	Campus
	First Responder Training Center

Table 3.2-1 Former NWS Concord Development and Other Districts

Category (General Plan Citywide Land Use Map)	Development/Other District (Area Plan District)
Commercial	Commercial Flex
Conservation, Open Space, and Recreation Lands	Conservation Open Space
	Greenways, Citywide Parks, and Tournament Facilities
Primary Circulation Network	Through Streets
	Collector Streets

Source: City of Concord 2012

Land use designations, as identified in the Concord 2030 General Plan, adjacent to the installation include the following (City of Concord 2012) (see Figure 3.2-2):

- Rural Residential
- Low-Density Residential
- Medium-Density Residential
- Commercial Mixed-Use
- Public/Quasi-Public
- Parks and Recreation
- Business Park
- Transportation
- Military
- Open Space
- Wetlands/Resource Conservation
- West Concord Mixed-Use.

In addition, the land use element identifies several principles and policies that guide development in the city. The following principles and policies for citywide development are applicable to the reuse of the former NWS Concord (City of Concord 2012):

Principles:

Principle LU-1.3: Encourage Infill Residential Development.

Principle LU-11.1: Protect Ridgelines and Visible Hillsides.

Policies:

Policy LU-1.1.9: Preserve visible hillsides and open space areas through techniques such as cluster development or density transfers.

Policy LU-1.2.4: Encourage neighborhood retail and service uses within convenient walking distance of all residential neighborhoods, where feasible.

Policy LU-1.3.1: Encourage a variety of housing types on infill development sites.

Policy LU-5.1.3: Provide sites for professional, administrative, and headquarters office space in Central Concord and other TOD locations.

Policy LU-11.1.10: Recognize the Los Medanos Hills between Concord and Pittsburg/Bay Point as an essential part of the City's character and open space "frame," and take steps to preserve this area as permanent open space.

Policy POS-2.1.4: Incorporate portions of the Concord Reuse Project site into the regional open space network, and provide trail and greenway connections between this area and developed Concord neighborhoods.

Policy POS-2.2.3: Strive to preserve open space in northeast Concord in order to maintain the visual profile of the Los Medanos Hills.

The following principles and policies are specific to the reuse of the former NWS Concord (City of Concord 2012):

Principles:

Principle LU-8.1: Achieve a complete and diverse community that provides well-connected neighborhoods and districts with high-quality urban design and convenient access to open space, daily necessities, and regional transit.

Principle LU-8.2: Provide for a balance between development and open space on the CRP [Concord Reuse Project] site.

Policies:

Policy LU-8.1.1: Provide diverse housing choices on the CRP site, including ownership and rental housing, a variety of unit types and densities, and a mix of price levels. Multiple housing types (including ownership and rental housing) should be located on individual or adjacent blocks where possible, helping to fulfill the vision of a mixed-income community serving many different household types.

Policy LU-8.1.2: Create multiple distinct neighborhoods within the CRP site, organized around village centers or TOD areas with neighborhood services, open spaces, and community facilities.

Policy LU-8.1.3: On the portions of the CRP site that adjoin existing Concord neighborhoods, design open spaces and new buildings to be compatible in scale with adjacent established uses.

Policy LU-8.1.4: Provide a variety of workplaces and shopping areas on the CRP site, designed for easy access by transit, pedestrians, and bicycles.

Policy LU-8.1.6: Design built features and the circulation system to respond to the CRP site's natural form. Where slopes of 30% of [*sic* or] greater occur within planned development areas on the CRP site, they should generally be set aside as open space.

Policy LU-8.1.7: Follow community design principles which reduce greenhouse gas emissions and support environmental sustainability. These principles include an emphasis on pedestrian and bicycle travel, easy access to transit from all new development, mixing of land uses to reduce trip generation, higher densities near the BART station, and the creation of attractive streetscapes which make walking or bicycling comfortable and safe.

Policy LU-8.1.8: Maximize views from public rights of way and public spaces on the CRP site to natural features, including but not limited to Mount Diablo, the California Delta, and the Los Medanos Hills, provided the resulting design is consistent with the climate action program.

Policy LU-8.1.9: Provide street and open space connections between the CRP site and established Concord neighborhoods at appropriate locations to improve accessibility and create a more cohesive and connected city.

Policy LU-8.2.1: Designate the most environmentally sensitive portions of the CRP site, including the Los Medanos Hills and the Mt. Diablo Creek corridor, as permanent open space.

Policy LU-8.2.2: Incorporate a network of greenways within the CRP site that help define neighborhood edges, connect residents to services and workplaces, and provide access to recreational features and open space.

Policy LU-8.2.3: Develop new community and neighborhood parks within proposed CRP development areas that complement and expand the citywide park system.

Policy LU-8.2.4: Include small-scale open spaces such as pocket parks and plazas in the CRP site's community gathering places, such as Village Centers and the transit-oriented district around the BART station.

Similar to Contra Costa County, the City of Concord established an urban limit line in the general plan that is largely coterminous with the city boundary (see Figure 3.2-2). The urban limit line is intended to concentrate future growth where existing and future city services are available. The urban limit line emphasizes infill and mixed-use development (City of Concord 2012). The former NWS Concord is located entirely within the urban limit line.

Development Code. The Concord City Development Code was revised and adopted in 2012 to be consistent with the 2030 General Plan. The development code classifies and regulates land uses and building dimensions in the city and promotes the public health, safety, and welfare. The development code implements the goals and policies of the general plan by guiding the physical development of the city through the use of zoning districts. Each zoning district establishes building density and permitted, conditionally permitted, and prohibited uses, and regulates the building height and footprint of allowed structures. The former NWS Concord is zoned Study Area (S), which is an interim zoning district for the installation. Detailed development standards for the former NWS Concord will be developed prior to adoption of a specific plan or regulatory document that conforms to the general plan. The installation is located adjacent to the following zones in the City of Concord (City of Concord 2012):

- PD (Planned District)
- PQP (Public/Quasi-Public)
- CMX (Commercial Mixed-Use)
- RS6 (Residential Single-Family, Low Density [2.5-10 dwelling unit/net acre])
- RS7 (Residential Single-Family, Low Density [2.5-10 dwelling unit/net acre])
- RS12 (Residential Single-Family, Low Density [2.5-10 dwelling unit/net acre])
- RR15 (Rural Residential [<2.5 dwelling unit/net acre])
- RR20 (Rural Residential [< 2.5 dwelling unit/net acre])

- RR40 (Rural Residential [< 2.5 dwelling unit/net acre])
- RM (Residential Medium Density)
- PR (Parks and Recreation)
- OBP (Office Business Park)
- Transportation
- Transit Station Overlay District

City of Pittsburg

General Plan. Pittsburg 2020: A Vision for the 21st Century was adopted in 2001 as the city's general plan to respond to growth and planning challenges. The general plan provides the long-range vision of the physical and economic development of the city and the conservation of hillsides and sensitive resources. Similar to Contra Costa County and the City of Concord, the land use element of the general plan divides the city into various land use designations to guide future development of the city. The following land use designations are located adjacent to NWS Concord (City of Pittsburg 2001) (see Figure 3.2-2):

- Hillside Low-Density Residential
- Low-Density Residential
- Open Space
- Park
- Public/Institutional.

The former NWS Concord is located adjacent to the Southwest Hills planning area in the City of Pittsburg. The following land use goals and policies are applicable to the proposed reuse of the former NWS Concord (City of Pittsburg 2001):

> **2-G-33:** Maintain the general character of the hill forms.
>
> **2-G-34:** Encourage development of higher-end, low-density residential neighborhoods.
>
> **2-P-95:** Development in the Concord Naval Weapons Station Restricted Federal Easement[3] area may be allowed when that Easement is abandoned.

Zoning Ordinance. The Zoning Ordinance of the City of Pittsburg was adopted to guide the physical development of the city, ensure compatibility between adjacent land uses, and protect the public health, safety, and welfare. The zoning ordinance divides the city into zoning districts in which land uses are regulated to provide for the orderly development of the city. Each zone establishes building density and permitted, conditionally permitted, and prohibited uses, and regulates the building height and footprint of allowed structures. The installation is located adjacent to the following zones in the City of Pittsburg (City of Pittsburg n.d.):

- RS-6 (Single-family Residential District, 6,000-square-foot minimum lot size)

[3] The phrase "Restricted Federal Easement" is used in the City of Pittsburg General Plan (City of Pittsburg 2001) to refer to an area surrounding weapons bunkers with the potential for critical damage, where development is prohibited due to the incompatibility of development near weapon storage facilities.

- OS-0 (Open Space with a limited overlay district)
- HPD (Hillside Planned District)

3.3 Socioeconomics and Environmental Justice

This section provides an overview of the terms used to describe the socioeconomic environment in the communities surrounding the former NWS Concord and provides a discussion of the executive orders that pertain to evaluating environmental justice issues and environmental health and safety risks to children associated with a federal action. In addition, existing socioeconomic conditions in the City of Concord and Contra Costa County, California, which are defined as the area of impact for the disposal and reuse of the former NWS Concord, are described in this section.

Discussions of the San Francisco-Oakland-Hayward Metropolitan Statistical Area (the MSA) are also included below for comparison. An MSA is defined by the federal Office of Management and Budget as a metropolitan area with a core urban area of 50,000 or more population, consisting of one or more counties as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core. The San Francisco-Oakland-Hayward MSA includes Alameda, Contra Costa, Marin, San Francisco, and San Mateo counties in California.

Socioeconomics is defined as the demographic and economic characteristics of a specific geographic area such as a town, city, county, or state. Factors evaluated in the assessment of socioeconomics in this EIS include population; economy, employment, and income; housing and commercial property; and taxes and revenue, as described below.

- **Population.** Population is defined as the number of persons residing within a geographic area defined by the U.S. Census Bureau and canvassed in the *2010 Census of Population and Housing* or in the *2011-2015 American Community Survey*.
- **Economy, employment, and income.** Employment by industry sector is described using data from the U.S. Census Bureau, annual labor force and unemployment statistics are described using data from the U.S. Bureau of Labor Statistics, and median household and per capita income are described using data from the U.S. Census Bureau.

Employment by industry sector refers to the way employment is distributed across companies producing similar products or providing similar services. *Labor force* is defined as the number of persons currently employed or actively searching for work within an area. *Median household income* is the midpoint of a range of household incomes. Half of the households in the range earn less than the median household income, and half of the households earn more. *Per capita income* is a measure of the total income from all income sources for all residents divided by the total number of residents in an area.

- **Housing property.** The number and characteristics of housing units within a defined geographic area as recorded by the U.S. Census Bureau in the *2010 Census of Population and Housing* and the *2011-2015 American Community Survey* are described.
- **Commercial property.** The characteristics of commercial space for rent or purchase as recorded by the local municipality, chamber of commerce, or economic development organization.
- **Taxes and revenue.** Property taxes and other revenue sources for the municipalities are also addressed in this analysis.

Other than several small, ongoing leases (such as leases for grazing) that do not generate more than a minimal amount of revenue, no economic activity takes place at the former NWS Concord. Housing previously located on the former NWS Concord and maintained by the Navy was transferred to the U.S. Coast Guard; no military or other personnel currently live on the installation.

3.3.1 Regulatory Framework

No specific federal statutes provide protection for or guide the assessment of impacts on socioeconomic conditions of a defined area with implementation of the proposed action. However, two executive orders do address issues related to environmental justice and the protection of children, which are closely aligned with socioeconomics. The U.S. Environmental Protection Agency (EPA) specifically defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, sex, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations, and policies" (EPA 2013).

3.3.1.1 Executive Order 12898

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was signed by the president on February 11, 1994. This EO requires each federal agency to identify and address, as appropriate, disproportionately high and adverse human health or environmental impacts of its programs, policies, and activities on minority and low-income populations, including Native American populations. The EPA and CEQ emphasize the importance of incorporating environmental justice review in the analyses conducted by federal agencies under NEPA and of developing protective measures that avoid disproportionate impacts on minority and low-income populations.

The CEQ has issued guidance to federal agencies on the terms used in EO 12898, as follows:

- **Low-income Population.** Low-income populations in an affected area are those with incomes under the poverty threshold and are identified using the annual statistical poverty thresholds from the U.S. Census Bureau.
- **Minority.** A minority individual is one who is a member of one or more of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.
- **Minority Population.** Minority populations are identified where either (a) the minority population of the study area exceeds 50 percent, or (b) the minority population percentage of the study area is meaningfully greater than the minority population percentage in the general population or another appropriate unit of geographic analysis.
- **Disproportionately High and Adverse Environmental Effects.** When determining whether environmental effects are disproportionately high and adverse, agencies consider the following three factors to the extent practicable:

    1. Whether there is or will be an impact on the natural or physical environment that significantly (as employed by NEPA) and adversely affects a minority population, low-income population, or Native American tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Native American tribes when those impacts are interrelated to impacts on the natural or physical environment.
    2. Whether environmental effects are significant (as employed by NEPA) and are having or would have adverse impacts on minority populations, low-income populations, or Native American tribes that appreciably exceed or are likely to

appreciably exceed those on the general population or other appropriate comparison group.

3. Whether the environmental effects occur or would occur in a minority population, low-income population, or Native American tribe affected by cumulative or multiple adverse exposures from environmental hazards (CEQ 1997a, b).

The Federal Interagency Working Group on Environmental Justice and NEPA Committee, *Promising Practices for EJ Methodologies in NEPA Reviews* (2016) suggests also or alternatively evaluating potential disproportionate effects on minority populations without consideration of population size of that minority population. The Federal Interagency Working Group also provides further guidance on determining effects, as discussed further in Section 4.3.

3.3.1.2 Executive Order 13045

President Clinton issued EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, on April 21, 1997. This order requires each federal agency to "make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and . . . ensure that its policies, programs, activities, and standards address disproportionate risks to children." This order was issued because a growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks.

3.3.2 Economy, Employment, and Income

In 2016, 31 of the companies on the U.S. Fortune 500 List had offices located within the San Francisco Bay Area (Newmark Realty Capital, Inc. 2015). According to the Bay Area Council Economic Institute, industry in the region is heavily concentrated in sectors that require either a highly skilled labor force or sectors that are related to tourism. One of the region's largest employment sectors is the professional, scientific, and technical services industry and the information industry, which attract highly educated workers. Specifically, employment in professional, scientific, and technical services and information is led by computer systems design and related services and scientific research and development. In general, businesses requiring skilled employees benefit from the Bay Area's highly educated labor force. Many also benefit from the region's high concentration of research universities, private and federal laboratories, and investment capital (Bay Area Council Economic Institute 2012).

Other important employment sectors in the Bay Area are related to the tourism industry and include arts, entertainment, and recreation and accommodation and food services. Manufacturing in the Bay Area is heavily focused on advanced equipment design and development, such as that required for semiconductor-based electronic technology (Bay Area Council Economic Institute 2012).

According to data from the *2011-2015 American Community Survey*, the largest industry sector in the MSA was the educational services, health care, and social assistance industry during this time period. The second-largest industry was the professional, scientific, management, administrative, and waste-management services industry (see Table 3.3-1). Note that the data presented in Table 3.3-1 were collected by the U.S. Census Bureau and, therefore, utilize the Census Bureau's industry categories and definitions. In contrast, the study by the Bay Area Council Economic Institute (2012) cited above relies on data from the U.S. Bureau of Labor Statistics, which uses its own industry categories and definitions. These data sources are not directly comparable. However, both data sets show the importance of academic and highly technical, highly skilled industries to the regional economy.

Employment by industry sector in the City of Concord and Contra Costa County is similar to that in the MSA (see Table 3.3-1). The educational services, health care, and social assistance sector employed the largest number of workers in these areas in 2015. About 20 percent of all employed civilian workers in

these communities worked in this industry sector (see Table 3.3-1). Professional, scientific, management, administrative, and waste-management services were the second-largest industry sector in these areas as well, followed by retail trade (see Table 3.3-1).

In Contra Costa County and the City of Concord, the finance, insurance, real estate, rental, and leasing industry sector accounts for approximately 9 percent of the employed civilian workforce. About 8 percent of the employed in the City of Concord, and 7 percent of the employed in Contra Costa County, worked in construction in 2011. These industry sectors include a larger percentage of the workforce in Contra Costa County and the City of Concord than in the MSA as a whole (see Table 3.3-1).

Table 3.3-1 Civilian Employment by Industry Sector (2015)

	City of Concord		Contra Costa County		MSA	
	Employees	% of Total	Employees	% of Total	Employees	% of Total
Agriculture, forestry, fishing and hunting, and mining	402	0.7	3,956	0.8	11,353	0.5
Construction	4,884	8.1	35,372	6.9	118,897	5.2
Manufacturing	3,465	5.7	34,989	6.9	178,643	7.8
Wholesale trade	1,185	2.0	12,338	2.4	53,893	2.4
Retail trade	7,211	11.9	55,008	10.8	230,136	10.1
Transportation and warehousing, and utilities	2,689	4.4	24,870	4.9	105,917	4.6
Information	1,474	2.4	14,268	2.8	83,523	3.7
Finance and insurance, and real estate and rental and leasing	5,537	9.1	46,060	9.0	176,361	7.7
Professional, scientific, and management, and administrative and waste-management services	9,696	16.0	79,942	15.7	414,662	18.2
Educational services and health care and social assistance	12,244	20.2	111,596	21.9	485,290	21.3
Arts, entertainment, and recreation, and accommodation and food services	6,133	10.1	44,613	8.7	222,611	9.8
Other services, except public administration	3,727	6.1	25,547	5.0	117,416	5.1
Public administration	1,958	3.2	21,361	4.2	83,756	3.7

Source: U.S. Census Bureau 2015a.

Tables 3.3-2 and 3.3-3 list the 10 largest employers in Contra Costa County and the City of Concord, respectively. In 2016, the largest employer in Contra Costa County was Chevron Corporation., employing more than 10,000 people. In the City of Concord, the largest employers in 2016 were Bank of America, the John Muir Medical Center, and PG&E and Wells Fargo (see Tables 3.3-2 and 3.3-3).

Table 3.3-2 Largest Employers, Contra Costa County, California (2016)

Company Name	Description	Employment
Chevron Corporation	Oil Refineries	10,000+
AAA Northern California, Nevada and Utah	Automobile Clubs	5,000 – 9,999
Bay Alarm Company	Burglar Alarm Systems	1,000 – 4,999
Bay Area Rapid Transit	Transit Lines	1,000 – 4,999
Bio-Rad Laboratories	Physicians & Surgeons Equipment & Surplus Manufacturers	1,000 – 4,999
John Muir Medical Center	Hospitals	1,000 – 4,999
Kaiser Permanente	Hospitals and Clinics	1,000 – 4,999
La Raza Market	Grocers-Retail	1,000 – 4,999
St. Mary's College	Schools-Universities and Colleges Academic	1,000 – 4,999
USS-POSCO Industries	Steel Mills (Manufacturers)	1,000 – 4,999

Source: California Employment Development Department 2017.

Table 3.3-3 Largest Employers, City of Concord, California

Company Name	Description	Total Employment (2016)
Bank of America	Financial Services	1,000-4,999
John Muir Medical Center	Medical Services	1,000-4,999
Pacific Gas and Electric Company	Electric Utility	1,000-4,999
Wells Fargo	Financial Services	1,000-4,999
Fresenius Medical Care	Medical Services	500-999
Macy's	Retail	500-999
Assetmark	Financial Services	250-499
Benchmark Electronics	Electronics Manufacturing Services	250-499
CB&I	Steel Engineering and Construction	250-499
Fry's Electronics	Retail	250-499
Home Depot	Retail	250-499
Systron Donner	Aerospace Industry	250-499

Source: City of Concord Finance Department 2016.

The City of Concord experienced higher unemployment rates between 2013 and 2015 than Contra Costa County and the MSA. The unemployment rates in the city, county, and MSA were below the statewide unemployment rates from 2013 to 2015 (U.S. Bureau of Labor Statistics 2017). The highest overall unemployment during this period was in 2013. However, all three communities experienced a decrease in their unemployment rates over the same period. Specifically, the average unemployment rate in the City of Concord decreased from 8.1 percent to 5.4 percent; from 7.5 percent to 5.0 percent in Contra Costa County; and from 6.4 percent to 4.2 percent in the MSA (Table 3.3-4). Over the same time period, the labor force increased in the city, county, and MSA (Table 3.3-4).

Table 3.3-4 Regional and Local Annual Average Labor Force and Unemployment Rates (2013 to 2015)

	2013		2014		2015	
	Labor Force	Unemployment Rate (%)	Labor Force	Unemployment Rate (%)	Labor Force	Unemployment Rate (%)
MSA	2,413,520	6.4	2,446,649	5.2	2,493,361	4.2
Contra Costa County	539,985	7.5	540,649	6.2	547,414	5.0
City of Concord	65,080	8.1	65,158	6.7	65,587	5.4

Source: U.S. Bureau of Labor Statistics 2017.

In 2013, per capita income in the City of Concord was $31,359 and $38,219 in Contra Costa County. In comparison, per capital income in the MSA was $41,588 in 2013. In contrast, the median household income in Contra Costa County was higher than the median household income for the MSA or the City of Concord. Per capita income in the MSA increased by 5.0 percent between 2013 and 2015, more than either the City of Concord or Contra Costa County. In 2015, the median household income was estimated to be $80,185 in Contra Costa County and $68,318 in the City of Concord. The median household income in the MSA was $81,552 in 2015. Between 2013 and 2015, median household income rose 3.8 percent in the City of Concord, 1.8 percent in Contra Costa County, and 4.7 percent in the MSA (Table 3.3-5).

Table 3.3-5 Regional and Local Per Capita and Median Household Income (2013 to 2015)

	2013		2015		Percent Change	
	Per Capita Income	Median Household Income	Per Capita Income	Median Household Income	Per Capita Income	Median Household Income
MSA	$41,588	$77,887	$43,675	$81,552	5.0	4.7
Contra Costa County	$38,219	$78,756	$39,313	$80,185	2.9	1.8
City of Concord	$31,359	$65,798	$31,748	$68,318	1.2	3.8

Source: U.S. Census Bureau 2013, 2015a.

3.3.3 Population

Total populations in Contra Costa County and the City of Concord have been increasing for the past two decades, with the greatest increase between 1990 and 2000 (Table 3.3-6). Table 3.3-6 shows total population levels from 1990 to 2015 for Contra Costa County and the City of Concord. The San Francisco-Oakland-Hayward MSA was not defined until after the 2010 census; therefore, no historical data exist for the MSA. In 2015, the City of Concord, with 126,268 residents, comprised 11.5 percent of Contra Costa County's population (see Table 3.3-6).

Table 3.3-6 Regional and Local Total Population (1990 to 2015)

	1990	2000	2010	2015	Percent Change 1990 to 2000	Percent Change 2000 to 2010	Percent Change 2010 to 2015
MSA	N/A	N/A	NA	4,528,894	N/A	N/A	NA
Contra Costa County	803,732	948,816	1,049,025	1,096,068	18.1	10.6	6.9
City of Concord	111,348	121,780	122,067	126,268	9.4	0.2	3.4

Source: U.S. Census Bureau 1990a, 1990b, 2000, 2010,2015b

Total population in the city, county and region as a whole is expected to continue to grow. According to population projections made by the ABAG, the total population of the City of Concord is expected to grow 37.2 percent; the population of Contra Costa County is expected to grow 22.0 percent; and the total population of the MSA is expected to grow 23.6 percent between 2010 and 2035 (see Table 3.3-7). The ABAG developed these projections based on assumptions concerning fertility and births, mortality rates, migration rates, job creation, and future development projects. For projections for the City of Concord and Contra Costa County, the reuse of NWS Concord was included as a possible future project (ABAG n.d.).

Table 3.3-7 Regional and Local Population Forecast (2010 to 2035)

Jurisdiction	2010 Actual	2015 Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	Percent Change (2010 to 2035)
MSA	N/A	N/A	4,704,300	4,909,700	5,124,700	5,357,900	23.6%
Contra Costa County	1,049,025	1,096,068	1,123,500	1,172,600	1,224,400	1,280,300	22.0%
City of Concord	122,067	126,268	128,500	141,100	154,000	167,500	37.2%

Source: U.S. Census Bureau 2010, 2015b; ABAG n.d.

3.3.4 Housing and Commercial Property

According to the *2011-2015 American Community Survey* (U.S. Census Bureau 2015c), there were 1,763,363 housing units in the MSA, 405,001 housing units in Contra Costa County, and 47,621 housing units in the City of Concord in 2015. Table 3.3-8 shows the total number of housing units by type of structure. Of the housing units in Contra Costa County, 66.9 percent were classified as single-family detached units, 7.5 percent were considered single-family attached units, 1.8 percent were mobile homes, and the remaining 23.8 percent were considered multi-family units (e.g., housing units with two or more attached units). The City of Concord accounts for 11.8 percent of the housing stock in Contra Costa County. In the City of Concord, 31.4 percent of the housing stock is multi-unit. In comparison, 39.9 percent of the housing units in the MSA as a whole are multi-unit (Table 3.3-8).

In 2015, approximately 35.4 percent and 40.8 percent of the occupied housing units in Contra Costa County and the City of Concord, respectively, were rented accommodations. For comparison, 46.4 percent of the occupied units in the MSA as a whole were renter-occupied in 2015 (Table 3.3-9).

Table 3.3-8 Total Housing Stock by Type of Structure (2015)

	MSA	Percent of Total	Contra Costa County	Percent of Total	City of Concord	Percent of Total
Single family, detached	883,071	50.1	271,011	66.9	29,016	60.9
Attached, 1 unit	155,879	8.8	30,467	7.5	2,337	4.9
Attached, 2 units	80,109	4.5	7,679	1.9	701	1.5
Attached, 3 to 9 units	242,138	13.7	39,848	9.8	5,682	11.9
Attached, 10 or more units	381,155	21.6	48,790	12.0	8,552	18.0
Mobile homes and others	21,011	1.2	7,206	1.8	1,333	2.8
Total Number of Housing Units	**1,763,363**	**100.0[1]**	**405,001**	**100.0[1]**	**47,621**	**100.0[1]**

Source: U.S. Census Bureau 2015c.

[1] Discrepancy in total the result of rounding.

Table 3.3-9 Regional and Local Housing Vacancy Rates, Median Value, and Median Gross Rent (2015)

	Owner-Occupied Units			Renter-Occupied Units		
	Total Occupied Units	Vacancy Rate (%)	Median Value	Total Occupied Units	Vacancy Rate (%)	Median Gross Rent
MSA	890,161	0.9	$617,000	770,060	2.9	$1,483
Contra Costa County	248,668	0.9	$439,900	135,978	3.5	$1,426
City of Concord	26,885	1.0	$389,000	18,524	3.0	$1,318

Source: U.S. Census Bureau 2015c.

In 2015, the demand for owner-occupied homes was strong throughout the region. The MSA, county, and city all experienced low vacancy rates, with the MSA, Contra Costa County, and City of Concord experiencing vacancy rates of less than 2 percent (see Table 3.3-9). Rental vacancies were highest in Contra Costa County (3.5 percent), while the City of Concord experienced a rental vacancy rate of 3.0 percent and the MSA as a whole experienced a rental vacancy rate of 2.9 percent (Table 3.3-9).

In 2015, the median value of owner-occupied units was higher in the MSA than in the county or city. The City of Concord reported the lowest median value of owner-occupied housing. The median value of owner-occupied units in the MSA was $617,000, while the median value of owner-occupied housing units was $439,900 in Contra Costa County and $389,000 in the city of Concord. Likewise, median gross rent was highest in the MSA at $1,483, while median gross rent was $1,426 in Contra Costa County and $1,318 in the city of Concord (Table 3.3-9).

Existing available office, industrial, and retail space in the city of Concord is reported by the City of Concord Economic Development Department and is summarized in Table 3.3-10. As of July 11, 2013, 1,251,513 square feet of office space; 861,831 square feet of industrial space; and 176,748 square feet of retail space were available for lease or purchase in the City of Concord. Based on the total inventory of office space reported in the City of Concord Area Plan, 1,251,513 square feet of office space represents approximately 29 percent of the total office space inventory in the City of Concord. Similarly, 861,831 square feet of industrial space represents approximately 15 percent of the total industrial space inventory in the City of Concord. The total inventory of retail space was not reported in the Area Plan.

Table 3.3-10 Available Office, Industrial, and Retail Space in the City of Concord (2013)[1]

	Type of Space (in square feet)[1]		
Area	Office	Industrial	Retail
City of Concord	1,251,513	861,831	176,748

Source: City of Concord Economic Development Department 2013.

[1] The square footage totals listed in the table are sums of available properties for lease or for sale as of July 11, 2013.

3.3.5 Taxes and Revenue

Taxes provide a large source of revenue for Contra Costa County and the City of Concord. Table 3.3-11 shows general expenditures and revenues for the City of Concord and Contra Costa County for the Fiscal Year (FY) ending June 30, 2016. In Contra Costa County, 27.2 percent of total revenue in 2016 was collected through taxes, while 46.1 percent of the City of Concord's revenue was collected through taxes. The largest revenue source for Contra Costa County was intergovernmental revenue (i.e., revenues transferred from other local, state, and federal entities). Public safety, protection, and assistance was the largest expenditure in 2016 for both the City of Concord and Contra Costa County, and accounted for

62.1 percent and 45.7 percent of the total expenditures for the county and city, respectively (see Table 3.3-11).

Table 3.3-11 Revenues and Expenditures for Contra Costa County and the City of Concord (FY Ending June 30, 2016)

	Contra Costa County (in thousands)	City of Concord (in thousands)
Revenue		
Taxes	$550,489	$53,323
Licenses, permits, and franchise fees	$31,990	$2,191
Fines, forfeitures, and penalties	$33,598	$775
Intergovernmental	$771,812	$46,500
Charges for service	$293,024	$5,877
Other sources of revenue[1]	$341,329	$6,953
Total Revenue	**$2,022,242**	**$115,619**
Expenditures		
General government	$176,093	$15,581
Public safety, protection, and assistance	$1,229,206	$50,508
Public works[2]	$413,570	$11,854
Education	$25,286	NA
Capital outlay	NA	$8,653
Debt service	$132,984	$4,577
Other expenditures[3]	$1,525	$19,300
Total Expenditures	**$1,978,664**	**$110,473**

Source: Contra Costa County 2016; City of Concord Finance Department 2016.

1 For the City of Concord, other sources of revenue include parks and recreation, special assessment collection, use of money and property, and other. For Contra Costa County, other sources of revenue include other revenue and use of money and property.

2 For the City of Concord, public works includes public works and building, engineering, and neighborhood service. For Contra Costa County, public works includes health and sanitation and public ways and facilities.

3 For the City of Concord, other expenditures include community and economic development and parks and recreation expenditures. For Contra Costa County, other expenditures include recreation and culture.

Table 3.3-12 shows the breakdown of tax revenue for Contra Costa County and the City of Concord. In Contra Costa County, 93.7 percent of tax revenue was collected from property taxes; in the City of Concord, 34.2 percent of tax revenue was collected from property taxes (see Table 3.3-12).

Table 3.3-12 Tax Revenue by Type for Contra Costa County and the City of Concord (FY Ending June 30, 2016)

	Contra Costa County (in thousands)	City of Concord (in thousands)
Total Tax Revenue	**$550,489**	**$53,323**
Property Tax	$515,708	$18,212
Sales and Use Tax	$14,549	$12,135
Other Taxes	$20,232	$22,976

Source: Contra Costa County 2016; City of Concord Finance Department 2016.

In 1978, California voters passed Proposition 13, which decreased property taxes by assessing property at its 1975 value until that property is sold and restricting the maximum amount of tax on real property to 1 percent or less of the full assessed value of such property. The 1 percent tax is shared by all taxing agencies that the property is located within (i.e., the City of Concord and Contra Costa County). In

addition to the 1-percent fixed amount, property owners can be charged taxes as a percentage of assessed property values for the payment of other voter-approved bonds from various agencies. Voters in the City of Concord have approved bonds for the BART District, EBRPD, and Mt. Diablo Unified School District and Community College (City of Concord Finance Department 2016).

The California State Constitution requires that all property be assessed at full-market value, defined as 100 percent of the most recent purchase price, plus an annual incremental increase of no more than 2 percent per year from the time of the last sale as well as any local over-rides. In 2016, the estimated full market value of all properties within the City of Concord was $14,702,051,205 (City of Concord Finance Department 2016).

In Contra Costa County, 2.6 percent of all tax revenues were collected as sales and use tax, whereas sales and use tax comprised 22.8 percent of total tax revenue collected in the City of Concord (see Table 3.3-12). In 2017, the sales and use tax rate in Contra Costa County was 8.25 percent. Any purchases made within the City of Concord included an additional 0.5-percent sales and use tax (California State Board of Equalization 2017).

3.3.6 Environmental Justice and Protection of Children

Consistent with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994), the Navy's policy is to identify and address any disproportionately high and adverse human health or environmental effects of the proposed action on minority and low-income populations. Information on the minority and low-income populations in the study area is discussed below. In addition, in conformance with EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, information on the percentage of children in the study area also is discussed below.

Potential environmental justice communities that may be impacted by the Navy's disposal of surplus property at the former NWS Concord and the subsequent reuse of the property by the local community were identified using population and demographic data from the U.S. Census Bureau, categorized at the census block group level for minority and ethnic populations and the census tract level for low-income populations. The Council on Environmental Quality (1997) advises using population data published by the U.S. Census Bureau for identifying minority populations, and poverty-level data from the U.S. Census Bureau to identify low-income populations in affected areas. The U.S. Census Bureau estimates race, and ethnicity, and poverty percentages annually for most geographic units; however, the smallest geographic unit available for persons below the poverty level is the census tract. The *2011-2015 American Community Survey* contains the most recent data published for Contra Costa County, California, within the census.

For purposes of this analysis, minority environmental justice communities were identified for any census block group with minority or ethnic populations, regardless of the size of the population, as recommended by the Federal Interagency Working Group on Environmental Justice and NEPA Committee (2016).

Low-income environmental justice communities were identified by comparing the percentage of the population living below the poverty level within census tracts to the larger community as a whole. If the percentage of residents with incomes below the poverty level in the census tract was greater than (or equal to) the percentage of residents in the community of comparison with incomes below the poverty level, then a low-income environmental justice community was identified within that census tract. For the purposes of this environmental justice analysis, the City of Concord was identified as the community of comparison. The City of Concord was selected as the community of comparison because it is the smallest geographic unit that incorporates the affected population.

Table 3.3-13 presents demographic and economic data that characterize the communities in which the potential for disproportionately high and adverse human health or environmental effects are assessed in accordance with EO 12898. Minority populations are present in all census block groups within the study area. Two census tracts in the study area contained higher percentages of populations below the poverty level than the City of Concord, the community of comparison, and are considered low-income environmental justice communities. These census tracts are noted in the table by shading of the cells. Children below the age of 18 are present in all the census block groups with the study area, and these populations will be assessed in accordance with EO 13045. Demographic and economic characteristics are shown for the MSA and Contra Costa County for background information but were not utilized in the analysis.

Table 3.3-13 Environmental Justice Population Characteristics

	Total Population	Total Minority Residents	Percent Minority	Total Population under 18	Percent Children	Percent below Poverty[1]
MSA	4,528,894	2,664,499	58.8%	931,652	20.6%	11.1
Contra Costa County	1,096,025	592,210	54.0%	260,467	23.8%	10.9
City of Concord	126,268	63,669	50.4%	28,306	22.4%	13.3
Census Block Group 3132042	1,508	907	60.1%	273	18.1%	17.7
Census Block Group 3150001	864	376	43.5%	99	11.5%	11.8
Census Block Group 3290002	1,540	583	37.9%	149	9.7%	12.3
Census Block Group 3300003	879	382	43.5%	192	21.8%	15.9
Census Block Group 3320002	692	210	30.3%	20	2.9%	10.2
Census Block Group 3331011	838	119	14.2%	142	16.9%	4.4
Census Block Group 3331021	1,295	280	21.6%	42	18.7%	5.5
Census Block Group 3332001	607	267	44.0%	85	14.0%	4.7
Census Block Group 3552001	1,927	1,702	88.3%	408	21.2%	5.6

Source: U.S. Census Bureau 2015a, 2015d, 2015e, 2015f, 2015g

[1] The smallest geographic unit available for persons below the poverty level is the census tract. The first 6 digits in the block group number correspond to the census tract number.

3.4 Air Quality and Greenhouse Gases

This section describes the existing conditions and regulatory framework associated with air quality and GHG emissions for the proposed action and alternatives.

The proposed action is located in the City of Concord, Contra Costa County, California. The following counties (or parts of counties) that surround the San Francisco Bay form the San Francisco Bay Area Air Basin (SFBAAB): Alameda County, Contra Costa County, Marin County, Napa County, San Francisco County, San Mateo County, Santa Clara County, the southern portion of Sonoma County, and the southwestern portion of Solano County. In general, the parts of the SFBAAB share common geographical

features, weather patterns, and air pollution burdens. Air quality in the basin is determined by such natural factors as topography, meteorology, and climate, and by air pollution sources.

Air quality in the SFBAAB is regulated at the federal level by the EPA, at the state level by the California Air Resources Board (CARB), and at the local level by the BAAQMD. Each of these agencies develops rules, regulations, and policies for regulating air quality in accordance with applicable legislation. The BAAQMD also has issued guidelines to address and mitigate GHG emissions in accordance with California laws and regulations.

3.4.1 Climate, Topography, and Air Pollution Potential

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distorts normal wind flow patterns. The climate is dominated by the strength and location of a semi-permanent, subtropical high pressure cell. During the summer, the Pacific high pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below to the surface because of this northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. During most of the year, weak inversions coupled with moderate winds result in a low air pollution potential (BAAQMD 2012).

The City of Concord is located in the Diablo Valley, which has a northwest-to-southeast orientation. The mountains on the west side of this valley block much of the marine air from reaching the valley. During the daytime, two predominant flow patterns are present: an up-valley flow from the north and a westerly flow (wind from the west) across the lower elevations of the Coast Range. On clear nights, surface inversions separate the flow of air into two layers: the surface flow and the upper layer flow. When this happens, drainage surface winds often flow down valley toward the Carquinez Strait. Wind speeds in the valleys generally are low. Winds can increase in the afternoon near San Ramon because it is located at the eastern edge of the Crow Canyon gap. Through this gap, polluted air from cities near San Francisco Bay travels to the valley in the summer months (BAAQMD 2012).

Air temperatures in the Diablo Valley are cooler in the winter and warmer in the summer than are temperatures further west, as this valley is far from the moderating effect of San Francisco Bay and the ocean. Mean summer maximum temperatures are in the low- to mid-80s Fahrenheit. Mean winter minimum temperatures are in the high 30s to low 40s. Pollution potential is relatively high in the valley. On winter evenings, light winds combined with surface-based inversions and terrain that restricts air flow can cause pollutant levels to increase. In the summer months, ozone and ozone precursors are often transported into the valley from both the central SFBAAB and the Central Valley (BAAQMD 2012).

3.4.2 Air Pollutants

3.4.2.1 Criteria Air Pollutants

The EPA focuses on the following criteria air pollutants as indicators of ambient air quality throughout the U.S.:

- carbon monoxide (CO);
- lead;
- nitrogen dioxide (NO_2);

- ozone;
- particulate matter with diameters less than or equal to 10 microns (PM_{10});
- particulate matter with diameters less than or equal to 2.5 microns ($PM_{2.5}$); and
- sulfur dioxide (SO_2).

These criteria air pollutants, described below, are prevalent in many regions of the U.S. and are known to be deleterious to human health and/or the environment:

CO is a colorless, odorless gas produced by the incomplete combustion of fossil fuels, primarily from gasoline-fueled equipment and vehicles. CO impacts are localized in nature. Since a primary source of CO occurs from motor vehicles operating at slow speeds, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

Lead primarily occurs in the atmosphere in particulate form. The elimination of leaded gasoline from use in on-road motor vehicles significantly reduced lead in ambient air in most regions of the U.S. Current sources of lead include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters.

NO_2 is a brownish, highly reactive gas present in urban environments. The primary sources of NO_2 are fossil fuel combustion devices, such as boilers and internal combustion engines. Combustion devices emit primarily nitric oxide (NO), with smaller amounts of NO_2. However, NO oxidizes in the atmosphere to form additional NO_2. NO and NO_2 are collectively referred to as oxides of nitrogen (NO_x).

Ozone is a gas that is not directly emitted into the atmosphere but is formed when reactive organic gases (ROG)[4] and NO_x undergo photochemical reactions in the presence of sunlight. Thus, ROG and NO_x are referred to as ozone precursors. NO_x and ROG originate from a variety of sources, including fuel combustion and chemical evaporation. Ozone concentrations are generally highest during the summer months, when maximum solar isolation and warm temperatures are conducive to ozone formation. Because of the reaction time involved in forming ozone, peak concentrations are often found many miles downwind of ozone precursor emissions. Ozone is a regional pollutant that has concentrations that are typically somewhat homogeneous throughout an airshed.

PM_{10} and $PM_{2.5}$ consist of extremely small, suspended particulate matter (PM). Natural sources include pollen, forest fires, and windblown dust. In populated areas, most man-made sources include road dust, combustion sources (including diesel equipment and vehicles), abrasion of tires and brakes, and construction activities. PM_{10} and $PM_{2.5}$ can also be formed in the atmosphere by chemical conversion of NO_x, SO_2, and ROG.

SO_2 enters the atmosphere as a pollutant mainly as a result of burning sulfur contained in fuel oils and coal and from chemical processes occurring at chemical plants and refineries. SO_2 is also converted to sulfates in the atmosphere.

The EPA has established primary and secondary National Ambient Air Quality Standards (NAAQS) for these criteria pollutants. The primary standards are established to protect public health, and the secondary standards are established to protect public welfare and the environment.

[4] ROG is often also referred to as volatile organic compounds (VOCs).

CARB has established California Ambient Air Quality Standards (CAAQS) for the criteria air pollutants, as well as for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particulate matter. The NAAQS and CAAQS are listed in Table 3.4-1.

Table 3.4-1 Summary of NAAQS and CAAQS

Pollutant	Averaging Time	NAAQS		CAAQS
		Primary	Secondary	
CO	8-hour	9.0 ppm[a]	—	9.0 ppm[b]
	1-hour	35 ppm[a]	—	20 ppm[b]
Lead	3-month (rolling avg.)	0.15 µg/m^3 [c]	0.15 µg/m^3 [c]	—
	30-day	—	—	1.5 µg/m^3 [c]
NO_2	Annual	0.053 ppm	0.053 ppm	0.030 ppm
	1-hour	0.100 ppm [d]	—	0.18 ppm[b]
Ozone	8-hour	0.070 ppm [e]	0.070 ppm [e]	0.070 ppm[b]
	1-hour	—	—	0.09 ppm[b]
PM_{10}	Annual	—	—	20 µg/m^3
	24-hour	150 µg/m^3 [f]	150 µg/m^3 [f]	50 µg/m^3 [b]
$PM_{2.5}$	Annual	12 µg/m^3 [g]	15 µg/m^3 [g]	12 µg/m^3
	24-hour	35 µg/m^3 [h]	35 µg/m^3 [h]	—
SO_2	24-hour	—	—	0.04 ppm[b]
	3-hour	—	0.5 ppm[a]	—
	1-hour	0.075 ppm [i]	—	0.25 ppm[b]
Sulfates	24-hour	—	—	25 µg/m^3 [c]
Hydrogen Sulfide	1-hour	—	—	0.03 ppm[c]
Vinyl Chloride	24-hour	—	—	0.01 ppm[c]
Visibility-Reducing Particles	8-hour	—	—	See note below[j]

Sources: 40 CFR 50; 17 CCR 70200

[a] Standard not to be exceeded more than once per year.
[b] Standards not to be exceeded.
[c] Standards not to be equaled or exceeded.
[d] To attain this standard, the 3-year average of the 98th percentile must not exceed the standard.
[e] To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average concentration over a year must not exceed the standard.
[f] Standard not to be exceeded more than once per year on average over 3 years.
[g] Standard is annual mean averaged over 3 years.
[h] To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations must not exceed the standard.
[i] To attain this standard, the 99th percentile of the 1-hour daily maximum 8-hour average concentration averaged over 3 years must not exceed the standard.
[j] The state-wide 10-mile visibility standard is extinction of 0.23 per kilometer. Standard not to be exceeded.

Key:
ppm = parts per million
µg/m^3 = micrograms per cubic meter

3.4.2.2 Hazardous Air Pollutants/Toxic Air Contaminants

Pollutants that are known or suspected to cause cancer or that can cause other serious health effects or adverse environmental effects are regulated by the EPA and CARB. The EPA has established a list of hazardous air pollutants (HAPs) subject to additional air quality regulations/requirements. Similarly, CARB has established a list of toxic air contaminants (TACs) that require additional analysis in California. In most cases, ambient air quality standards have not been established for HAPs or TACs.

These pollutants are generally addressed through statutes and rules that require screening analyses, risk assessment, and/or the use of the maximum or best available control technologies to limit emissions.

HAPs/TACs are emitted by a variety of sources, such as stationary and mobile combustion sources, solvent/chemical manufacturing and use, gasoline stations, and dry cleaners. Important sources of HAPs/TACs are motor vehicles and off-road equipment. Diesel engines emit a complex mix of pollutants, the most visible of which are very small carbon particles, or "soot," known as diesel PM. CARB has identified diesel PM as a TAC because it contains various pollutants with the potential to cause cancer or other health problems.

3.4.2.3 Nuisance Odors

Some air pollutants are not associated with serious health or environmental effects but do have odors that create a nuisance to the public, making areas unpleasant or uncomfortable. Some typical odor sources include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing plants, and painting/coating operations.

3.4.3 Greenhouse Gases

Climate change, or global warming, represents an average increase in the temperature of the atmosphere near the earth's surface and in the troposphere, which can contribute to changes in global climate patterns. Increased GHG emissions are the primary cause of climate change; therefore, efforts to reduce GHG emissions are considered the best way to reduce the potential impacts of climate change (EPA 2016a). Current scientific research indicates that potential effects of climate change include variations in temperature and precipitation, sea-level rise, impacts on biodiversity and habitat, impacts on agriculture and forestry, and human health and social impacts (EPA 2016a).

GHGs are gases that allow solar radiation to pass through the earth's atmosphere but prevent heat from escaping, resulting in atmospheric warming. Certain GHGs occur naturally and help balance the earth's temperature; however, research indicates that since the advent of the Industrial Revolution, human activity has resulted in an elevation of the concentration of some of these gases in the atmosphere. In particular, concentrations of carbon dioxide (CO_2) emitted from the burning of fossil fuels has increased significantly. Much of the carbon in the atmosphere is absorbed by natural "carbon sinks," such as forests or ocean kelp. CO_2 is then emitted back into the atmosphere through natural processes such as animal and plant respiration, and oceanic and geological processes. These natural processes represent "sources" of CO_2. When balanced, the amount of CO_2 emitted from sources and absorbed by carbon sinks is roughly equal; this process is known as the "carbon cycle." As emission levels rise from human activity, carbon sinks are becoming overwhelmed and are unable to sequester the increasing amounts of CO_2. Further, other human activity, such as deforestation, can lead to the reduction of sinks. The resulting increase in GHGs in the atmosphere is now considered one of the key causes of global climate change.

The California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) requires a reduction in GHG emissions in California. AB 32 targets the following GHGs:

- CO_2;
- methane (CH_4);
- nitrous oxide (N_2O);
- sulfur hexafluoride (SF_6);
- hydrofluorocarbons (HFCs); and
- perfluorocarbons (PFCs)

CO_2, CH_4, and N_2O are generated from both natural and human activities. SF_6, HFCs, and PFCs are man-made compounds. These GHGs are described below:

> ***CO_2*** is a colorless, odorless gas. Natural sources of CO_2 include respiration by bacteria, fungus, and animals; decomposition of organic matter; evaporation of ocean water; and geological processes. The primary human-induced sources of CO_2 are combustion of fossil fuels, natural gas, and wood.
>
> ***CH_4*** is a highly flammable gas that is a primary component of natural gas. Natural sources of CH_4 include anaerobic decay of organic matter; geological deposits (e.g., natural gas fields); and cattle. Human-induced sources include emissions generated by the decay of organic material in landfills and fermentation of manure and other organic material.
>
> ***N_2O*** is produced by natural sources, including microbial action in soil and water, particularly at tropical latitudes. Human-induced sources include emissions from manufacturing facilities, fossil fuel power plants, and motor vehicles.
>
> ***SF_6*** is a colorless, odorless, non-flammable, non-toxic gas used mainly as an insulator (when mixed with other gases, such as argon) in the manufacture of electronics.
>
> ***HFCs*** are compounds consisting of carbon, hydrogen, and fluorine atoms. HFCs were introduced as replacements for atmospheric ozone-depleting chemicals in various industrial and commercial applications. They are used in solvents, refrigerants, firefighting agents, and aerosol sprays.
>
> ***PFCs*** are chemicals consisting of carbon and fluorine atoms. PFCs were also introduced as an alternative to atmospheric ozone-depleting chemicals and are used in similar industrial and commercial applications.

The effect of a particular GHG on global climate change depends on its global warming potential (GWP). The GWP for other GHGs is calculated relative to CO_2. Thus, GHG emissions to the atmosphere are typically reported in terms of CO_2 equivalency (CO_2e). By multiplying the mass of a GHG emitted by its GWP, an equivalent amount of CO_2 is calculated (e.g., with a GWP of 25, one pound of CH_4 is equivalent to 25 pounds of CO_2e). GWP is determined by a number of factors, including molecular structure, a compound's ability to absorb infrared radiation, and the amount of time the compound can exist in the atmosphere before breaking down.

The Intergovernmental Panel on Climate Change (IPCC) conducts worldwide research on climate change, and establishes GWP values for GHG emissions. The IPCC published the most recent GWP values in its fifth assessment report (IPCC 2014). However, the air quality impact analysis conducted in this EIS was completed using CalEEMod 2013 modeling software (see Chapter 4.4), which was based on an earlier set of GWP values, as published in the IPCC's second assessment report (IPCC 1995). Table 3.4-2 shows the GWP values from both reports for the six GHGs described above.

Table 3.4-2 Global Warming Potential for Greenhouse Gases (100 year time horizon)

Greenhouse Gas	Global Warming Potential Second assessment report)[1]	Global Warming Potential Fifth assessment report)[2]
CO_2	1	1
CH_4	21	25
N_2O	310	298
SF_6	16,300	22,900
HFCs	140-11,700	12-14,800
PFCs	7,000-23,900	7,390-12,200

[1] IPCC 1995
[2] IPCC 2014

3.4.4 Existing Air Emission Sources

The City of Concord is within an urbanized part of Contra Costa County, within the SFBAAB. The existing emission sources within the county and the region include stationary, area-wide, and mobile sources. A summary of criteria air pollutant emission inventories for Contra Costa County and SFBAAB from 2008 are presented in Table 3.4-3.

Table 3.4-3 County and Regional Emission Inventory

Source Type	Average Daily Emissions (tons/day)					
	CO	NO_x	PM_{10}	$PM_{2.5}$	ROG	SO_x
Contra Costa County						
Stationary Sources						
Industrial/Commercial Fuel Combustion	13	18	3.0	2.9	1.7	10
Waste Disposal	0.2	0.2	0.01	0.01	1.2	0.01
Cleaning and Surface Coatings	-	-	-	-	3.2	-
Petroleum Production and Marketing	0.2	0.6	0.7	0.6	11	8.6
Industrial Processes	1.3	2.3	2.4	1.7	2.9	7.2
Total	**15**	**21**	**5.4**	**4.6**	**20**	**26**
Area-Wide Sources						
Solvent Evaporation	-	-	-	-	10	-
Residential Fuel Combustion	41	2.6	5.8	5.6	2.4	0.1
Farming Operations	-	-	1.7	0.9	0.8	-
Fugitive/Construction/Road Dust	-	-	19	2.5	-	-
Other Miscellaneous Processes	2.3	0.09	0.9	0.6	0.2	0.01
Total	**43**	**2.7**	**27**	**10**	**14**	**0.1**
Mobile Sources						
On-Road Vehicles	165	30	1.5	1.1	17	0.1
Off-Road Equipment	41	18	1	0.9	5.7	0.01
Other Mobile Sources	25	9.3	0.8	0.8	5	8.5
Total	**232**	**57**	**3.4**	**2.7**	**28**	**8.6**

Table 3.4-3 County and Regional Emission Inventory

Source Type	Average Daily Emissions (tons/day)					
	CO	NO_x	PM_{10}	$PM_{2.5}$	ROG	SO_x
SFBAAB						
Stationary Sources						
Industrial/Commercial Fuel Combustion	40	45	5.4	5.4	3.2	12
Waste Disposal	1.9	0.6	0.1	0.1	36	0.2
Cleaning and Surface Coatings	-	-	-	-	35	-
Petroleum Production and Marketing	0.3	0.6	1	0.9	21	26
Industrial Processes	1.9	4.1	10	5.8	11	8.1
Total	**44**	**51**	**16**	**12**	**107**	**46**
Area-Wide Sources						
Solvent Evaporation	-	-	-	-	71	-
Residential Fuel Combustion	149	16	22	21	9.2	0.6
Farming Operations	-	-	18	10	5.6	-
Fugitive/Construction/Road Dust	-	-	129	17	-	-
Other Miscellaneous Processes	13	0.5	7.3	4.9	1.7	0.05
Total	**162**	**17**	**176**	**53**	**88**	**0.6**
Mobile Sources						
On-Road Vehicles	1,067	207	10	7.1	112	0.9
Off-Road Equipment	336	103	6.2	5.6	38	0.08
Other Mobile Sources	139	71	4	3.6	33	14
Total	**1,541**	**381**	**20**	**16**	**183**	**15**

Source: CARB 2017a

3.4.5 Greenhouse Gas Emission Sources

The 2014 GHG inventory report from the EPA indicates that the U.S. emitted 6.5 billion metric tons of GHGs in 2012 (EPA 2014). The State of California contributes substantially to those GHG emissions: California generated 458.7 million metric tons of CO_2e in 2012, according to the state's 2014 inventory report (CalEPA 2014). The largest source of GHG emissions in California was on-road vehicles, which accounted for approximately 36 percent of GHG emissions for the state.

3.4.6 Existing Air Quality

As the local air quality agency, the BAAQMD has primary responsibility for monitoring the air quality within the SFBAAB, including Contra Costa County. The BAAQMD operates a 28-station monitoring network throughout the basin. The monitoring network provides the data required to determine whether the SFBAAB is in compliance with state and federal air quality standards. Air monitoring data are also used for air quality forecasts, air quality plan modeling, permit modeling, and environmental assessment.

The nearest monitoring station to the former NWS Concord is located approximately 3.5 miles away, at 2975 Treat Boulevard in the City of Concord. The station has collected ambient air data for the following criteria air pollutants: CO, NO_2, O_3, PM_{10}, $PM_{2.5}$, and SO_2. A summary of historical air pollutant monitoring data from this station is provided in Table 3.4-4.

Table 3.4-4 Historical Air Quality Data at the 2975 Treat Boulevard Monitoring Station

Pollutant	Averaging Time	Standard[a]	Parameter	2010	2011	2012	2013	2014	2015
CO	8-hour	NAAQS	Highest Concentration (ppm)	0.95 ppm	1.24 ppm	0.82 ppm	N/A	N/A	N/A
			Days above Standard	0	0	0			
		CAAQS	Highest Concentration (ppm)	0.94 ppm	1.24 ppm	0.82 ppm	N/A	N/A	N/A
			Days above Standard	0	0	0			
	1-hour	NAAQS/ CAAQS	First High Concentration (ppm)	1.2 ppm	1.6 ppm	1.2 ppm	1.2 ppm	1.2 ppm	1.2 ppm
			Days above Standard	0	0	0	0	0	0
NO_2	Annual	NAAQS/ CAAQS	Annual Average Concentration (ppm)	0.008 ppm	0.009 ppm	0.008 ppm	0.009 ppm	0.007ppm	0.007 ppm
	1-hour	NAAQS/ CAAQS	Highest Concentration (ppm)	0.042 ppm	0.042 ppm	0.040 ppm	0.045 ppm	0.048 ppm	0.033 ppm
			Days above Standard	0	0	0	0	0	0
Ozone	8-hour	NAAQS/ CAAQS	Highest Concentration (ppm)	0.087 ppm	0.078 ppm	0.085 ppm	0.062 ppm	0.080 ppm	0.085 ppm
			Days above Standard	4	5	3	0	2	2
	1-hour	CAAQS	Highest Concentration (ppm)	0.103 ppm	0.099 ppm	0.093 ppm	0.074 ppm	0.095 ppm	0.088 ppm
			Days above Standard	2	2	0	0	1	0
PM_{10}	Annual	CAAQS	Annual Average Concentration ($\mu g/m^3$)	13.7 $\mu g/m^3$	15.7 $\mu g/m^3$	12.6 $\mu g/m^3$	8.3 $\mu g/m^3$	14.1/7.3 $\mu g/m^3$	13.1/6.7 $\mu g/m^3$
	24-hour	NAAQS	Highest Concentration ($\mu g/m^3$)	39.7 $\mu g/m^3$	55.9 $\mu g/m^3$	33.7 $\mu g/m^3$	47.6 $\mu g/m^3$	40.8 $\mu g/m^3$	22.5 $\mu g/m^3$
			Estimated Days above Standard	0	0	0	0	0	0
		CAAQS	Highest Concentration ($\mu g/m^3$)	41.3 $\mu g/m^3$	58.8 $\mu g/m^3$	35.4 $\mu g/m^3$	50.5 $\mu g/m^3$	42.5 $\mu g/m^3$	24.0 $\mu g/m^3$
			Estimated Days above Standard	0	0	0	0	0	0

Table 3.4-4 Historical Air Quality Data at the 2975 Treat Boulevard Monitoring Station

Pollutant	Averaging Time	Standard[a]	Parameter	2010	2011	2012	2013	2014	2015
$PM_{2.5}$	Annual	NAAQS	Average Concentration ($\mu g/m^3$)	7.0 $\mu g/m^3$	7.8 $\mu g/m^3$	6.6 $\mu g/m^3$	7.6 $\mu g/m^3$	6.7 $\mu g/m^3$	8.8 $\mu g/m^3$
		CAAQS	Average Concentration ($\mu g/m^3$)	7.1 $\mu g/m^3$	7.9 $\mu g/m^3$	6.6 $\mu g/m^3$	7.6 $\mu g/m^3$	6.7 $\mu g/m^3$	insufficient data
	24-hour	NAAQS	98th Percentile Concentration ($\mu g/m^3$)	26.8 $\mu g/m^3$	24.4 $\mu g/m^3$	20.2 $\mu g/m^3$	21.7 $\mu g/m^3$	20.5 $\mu g/m^3$	28.0 $\mu g/m^3$
			Estimated Days above Standard	1	2	0	1	0	0
SO_2	24-hour	CAAQS	Highest Concentration (ppm)	0.002 ppm	0.003 ppm	0.003 ppm	N/A	N/A	N/A
	1-hour	NAAQS/ CAAQS	99th Percentile Concentration (ppm)	0.008 ppm	0.008 ppm	0.007 ppm	N/A	N/A	N/A

Sources: CARB 2017a

[a] Indicates to which standard the data apply. In some instances, the concentration for a pollutant was calculated differently for comparison to the standards because of differing state and federal procedures.

Key:
$\mu g/m^3$ = micrograms per cubic meter
N/A = not available
ppm = parts per millions

The EPA compares ambient air monitoring data for criteria air pollutants to NAAQS to assess air quality in regions within the U.S. Similarly, CARB compares monitoring data for criteria air pollutants to CAAQS to assess air quality in regions within California. Based on these comparisons, areas are designated as one of the following categories:

Attainment. A region is designated as "attainment" if monitoring shows that ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. In addition, an area that has been re-designated from "nonattainment" to attainment for a NAAQS is classified as a "maintenance area" for a finite period to ensure that the air quality improvements are sustained.

Nonattainment. If the NAAQS or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant.

Unclassifiable/Unclassified. An area is designated as "unclassifiable (or unclassified)" if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

A summary of air quality designations for the portion of the SFBAAB in which the former NWS Concord is located is presented in Table 3.4-5.

Table 3.4-5 Air Quality Attainment Status for the Bay Area Air Quality Management District

Pollutant	Attainment Status	
	NAAQS	CAAQS
CO	Attainment – Maintenance Area	Attainment
Lead	Unclassifiable/Attainment	Attainment
NO_2	Attainment	Attainment
Ozone	Nonattainment – Moderate	Nonattainment
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
SO_2	Attainment	Attainment
Sulfates	—	Attainment
Hydrogen Sulfide	—	Unclassified
Visibility-Reducing Particles	—	Unclassified

Sources: 40 CFR 85; CARB 2016.

3.4.7 Regulatory Framework: Air Quality

3.4.7.1 Federal

The EPA is the principal federal agency responsible for air quality management in the U.S.

Clean Air Act

The Clean Air Act (CAA) is the law that defines EPA's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer. Under the CAA, the EPA has established NAAQS for criteria air pollutants; designates the status of areas relative to NAAQS; develops schedules and strategies to meet the NAAQS; and oversees implementation of federal programs for permitting new and modified stationary sources, controlling toxic air contaminants, and reducing emissions from motor vehicles and other mobile sources.

As part of the CAA, the EPA requires each state to prepare a State Implementation Plan (SIP), which describes how that state will achieve compliance with NAAQS. A SIP is a compilation of goals, strategies, schedules, and enforcement actions that will lead the state into compliance with all air quality standards. Each change to a compliance schedule or plan must be incorporated into the SIP. In California, the SIP consists of separate elements for each air basin, depending upon the attainment status of the particular air basin.

The CAA requires that states develop an operating permit program for all major sources of pollutants. Under the CAA, state and/or local agencies may be delegated authority to administer the requirements of the CAA.

General Conformity Rule

In order to ensure that federal activities do not hamper local efforts to control air pollution, the General Conformity Rule prohibits federal agencies, departments, or instrumentalities from engaging in, supporting, providing financial assistance for, licensing, permitting, or approving any action that does not conform to an approved SIP or federal implementation plan. The purpose of the General Conformity Rule is to ensure that federal activities do not cause or contribute to a new or existing violation of any NAAQS and to ensure that attainment of any of the NAAQS is not delayed. The General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas and covers direct and indirect emissions of criteria pollutants or their precursors that are caused by a federal action, are reasonably foreseeable, and can be controlled practically by the federal agency through its continuing program responsibility. The SFBAAB, including Contra Costa County, is currently designated as nonattainment for the ozone and $PM_{2.5}$ NAAQS and is a maintenance area for CO.

Since this action is a land transfer and the Navy will not maintain continuing responsibility over the completion of the action (i.e., the implementation of the City of Concord's Area Plan), the action is not subject to the General Conformity Rule under the provisions of 40 CFR 93.153(c)(2) (xiv) and (xix), which indicate the conformity rule does not apply to federal actions that involve the transfer of ownership, interests, and titles of land, facilities, and real and personal properties, regardless of the form or method of transfer. A Record of Non-Applicability of the Clean Air Act General Conformity Rule is included in Appendix G.

3.4.7.2 State

The California Clean Air Act (CCAA) outlines a statewide air pollution control program in California. CARB is the primary administrator of the CCAA, while local air quality districts administer air rules and regulations at the regional level. CARB is responsible for establishing the CAAQS, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and preparing the SIP. Many of the pertinent state air regulations are codified in Title 13 and Title 17 of the California Code of Regulations (CCR).

3.4.7.3 Local

Local air districts in California are responsible for issuing stationary source air permits, developing emissions inventories, maintaining air quality monitoring stations, and reviewing air quality environmental documents required by CEQA. The CCAA also designates air districts as lead air quality planning agencies, requires them to prepare air quality plans, and grants them authority to implement transportation control measures. The BAAQMD is the administrator of air pollution rules and regulations for the SFBAAB and is responsible for implementing measures and local air pollution rules that ensure NAAQS and CAAQS are achieved and maintained. The BAAQMD prepares air quality plans to be submitted for inclusion in the California SIP. These plans include assessments of air quality at a regional

level and region-wide attenuation methods and policies to achieve attainment levels with respect to air quality standards. The BAAQMD has established local rules and regulations to address air pollution control and air quality management.

Air Quality Plans

The BAAQMD periodically prepares and updates plans in order to attain NAAQS and CAAQS, comply with quality planning requirements, and improve air quality. The technical analyses in these plans provide the basis for developing emissions reduction strategies to achieve air quality standards. Air quality plans usually define control strategies to reduce air pollutant emissions from industrial facilities, commercial processes, motor vehicles, and other sources. Control strategies are typically implemented through a combination of regulations adopted and enforced by the BAAQMD, grant and incentive programs, public education and outreach, and partnerships with other agencies and stakeholders. BAAQMD air quality plans are prepared in cooperation with MTC and ABAG.

The most recent BAAQMD ozone plan prepared in response to federal air quality planning requirements is the 2001 Ozone Attainment Plan. In addition, the BAAQMD prepared the Bay Area 2005 Ozone Strategy as a roadmap for how the district will achieve compliance with the 1-hour ozone CAAQS as expeditiously as practicable and how the region will reduce transport of ozone and ozone precursors to neighboring air basins.

The most recent final state ozone plan is included in the Bay Area 2010 Clean Air Plan, adopted in September 2010. The 2010 Clean Air Plan was developed as a multi-pollutant plan that serves to:

- Update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the CCAA to implement "all feasible measures" to reduce ozone;
- Provide a control strategy to reduce ozone, PM, TACs, and GHGs in a single, integrated plan;
- Review progress in improving air quality in recent years; and
- Establish emission control measures to be adopted or implemented.

The BAAQMD has released a draft of the 2017 Clean Air Plan, which is currently under review (BAAQMD 2017).

In 1998, the EPA approved the "Carbon Monoxide Redesignation Request and Maintenance Plan for Ten Federal Planning Areas" as part of the SIP and redesignated 10 areas in California to CO attainment, including the SFBAAB. In 2004, CARB approved an update to the SIP that shows how the 10 areas will maintain the CO NAAQS through 2018, revises emission estimates, and establishes new on-road motor vehicle emission budgets for transportation conformity purposes.

3.4.8 Regulatory Framework: GHGs

3.4.8.1 International

In 1988, the World Meteorological Organization and United Nations formed the Intergovernmental Panel on Climate Change (IPCC) as a joint effort to assess the impact of human activity on the global climate. In 1990, the IPCC issued its first assessment report, which helped identify climate change as a serious issue and laid the groundwork for the formation of the United Nations Framework Convention on Climate Change (UNFCCC). The second assessment report, issued by the IPCC in 1995, contributed to the drafting of the Kyoto Protocol to the UNFCCC, adopted in 1997. The Kyoto Protocol asked signatories to the UNFCCC to commit to reducing emissions of four primary GHGs (CO_2, CH_4, N_2O, and SF_6) and two

secondary groups of GHGs (HFCs and PFCs) to 5 percent below 1990 emission levels by 2012. The IPCC issued its most recent, fifth assessment report in 2014 (IPCC 2014).

The Paris Agreement was negotiated at the 2015 United Nations Climate Change Conference (or COP 21 [conference of the parties]) in Paris, France, in 2015. This agreement committed signatories to strengthen the global response to the threat of climate change, holding the increase in global average temperature to below 2 degrees Celsius (UNCCC 2015). The agreement was signed by 174 countries (including the U.S.) on April 22, 2016 (Flak 2016). On June 1, 2017, President Trump announced his decision to exit the Paris Agreement (White House 2017). In accordance with the agreement, any party may withdraw after three years by giving written notification to the Depositary, and the withdrawal will take effect one year after receipt of that notification (United Nations 2016).

3.4.8.2 Federal

In the U.S., federal agencies and state governments have implemented programs and policies in an attempt to reduce GHG emissions to mitigate the extent of climate change and adapt to the impacts that are likely to occur.

Legislation includes the Energy Policy Act of 2005, which addressed energy efficiency, renewable energy, energy tax incentives, and ethanol in motor fuels (EPA 2016c), and the Energy Independence and Security Act of 2007, which reinforces energy reduction goals for federal agencies. Under the CAA, the EPA has developed and implemented GHG emission standards for stationary sources through the Greenhouse Gas Tailoring Rule and the Greenhouse Gas Reporting Program (EPA 2016c).

Several EOs have been issued in recent years that direct federal agencies to address climate change and GHG emissions with emission reductions and preparedness planning and implementation. EO 13653, Preparing the U.S. for the Impacts of Climate Change in 2013, which establishes task forces, research funding, and state, local, private-sector, and nonprofit-sector support to address climate preparedness, resilience, and adaptation. This EO was revoked by EO 13783 on March 28, 2017. EO 13693, Planning for Federal Sustainability in the Next Decade (2015) requires federal agencies to meet emission-reduction goals associated with energy use, water use, building design and utilization, fleet vehicles, and procurement and acquisition decisions.

Federal agencies are required to consider GHG emissions and climate change in environmental assessment in accordance with NEPA. The Office of the Chief of Naval Operations M-5090.1D Environmental Readiness Program Manual (Navy 2014a) states that the Navy must address the effects of climate change, identifying and quantifying GHG emissions (where possible) that may be generated in executing the Proposed Action, and also describing the beneficial activities being implemented Navy-wide to reduce GHG emissions. On August 1, 2016, the CEQ issued final guidance on the consideration of GHG emissions and climate change in NEPA review (CEQ 2016). The guidance clarifies that NEPA review requires how federal agencies should consider the effects of GHG emissions and climate change when evaluating proposed actions in accordance with NEPA law. CEQ issued a withdrawal of this guidance on April 5, 2017 as directed to by EO 13783, stating that the withdrawal of the guidance does not change any law, regulation, or other legally binding requirements (82 FR 16576).

3.4.8.3 State

EO S-3-05, issued in 2005, sets a statewide GHG emission reduction target of 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. In 2006, AB 32, the Global Warming Solutions Act, in which the state's GHG emissions are capped at 1990 levels by 2020, was signed. This is the first statewide program in the country to mandate an economy-wide emissions cap that includes

enforceable penalties. In 2015, Governor Brown issued EO B-30-15 to establish a more stringent goal to reduce GHG emissions 40 percent below 1990 levels by 2030 (CARB 2015).

The First Climate Change Scoping Plan was approved by the CARB in 2008 and must be updated every five years. The First Update to the Climate Change Scoping Plan was approved by the CARB on May 22, 2014. The CARB is moving forward with a second update to the Scoping Plan to reflect the 2030 target established in EO B-30-15(CARB 2017b). The Scoping Plan has a range of GHG reduction actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

In June 2017, Governor Brown formed the U.S. Climate Alliance with the governors of New York and Washington to commit to reducing emissions 26 to 28 percent from 2005 levels in order to meet or exceed targets of the federal Clean Power Plan. This Alliance was signed by 10 additional states (Office of the Governor of California 2017). The Alliance was created in response to President Trump's decision to withdraw from the Paris Climate Agreement (White House 2017).

3.4.8.4 Local

In 2005, the BAAQMD adopted a resolution establishing a climate protection program and acknowledging the link between climate protection and programs to reduce air pollution in the Bay Area. The BAAQMD also formed a standing committee on climate protection to provide direction to local governments on climate protection activities. A central element of the climate protection program is the integration of climate protection activities into existing programs. The climate protection program also emphasizes collaboration with ongoing climate protection efforts at the local and state level, public education and outreach, and technical assistance to cities and counties.

The BAAQMD draft of the 2017 Clean Air Plan, as discussed in 3.4.7.3, includes measures to reduce GHG emissions and climate change, in addition to other measures to improve air quality. The draft of the 2017 Clean Air Plan is currently being reviewed (BAAQMD 2017).

In December 2012, a Contra Costa County Draft Climate Action Plan was completed and released for public review and comment (Contra Costa County 2012b). The Draft Climate Action Plan identifies specific measures for how Contra Costa County can achieve a GHG reduction target of 15 percent below baseline levels by the year 2020. In addition to reducing GHGs, the Draft Climate Action Plan includes proposed policies and actions to improve public health and provide additional community benefits, and it lays the groundwork for achieving long-term GHG reduction goals for 2020 and 2035.

The City of Concord has also prepared a Citywide Climate Action Plan (CAP) in response to state mandates and regional guidance on reducing GHG emissions. The plan supports local economic development by providing streamlined environmental review for development projects consistent with the Citywide CAP. A public review draft of the Citywide CAP was issued in March 2013, and the CAP was adopted on July 23, 2013 (City of Concord 2013a).

Much of the growth in Concord over the coming decades will be associated with the reuse of the former NWS Concord. The Area Plan features new, sustainable development and includes its own climate action plan (i.e., Book 3 of the Area Plan), specifically focused on reducing GHG emissions.

3.5 Biological Resources

This section describes the affected environment within the former NWS Concord with respect to biological resources. Biological resources include plants and wildlife as well as their habitats, such as the grasslands and wetlands communities that are present at the former NWS Concord. The region of

influence (ROI) for biological resources is the former NWS Concord and an area within a 5-mile radius of the installation, for those wildlife species (birds, in particular) with home ranges that extend to this radius.

In this document, the term "special status species" refers to any of the following:

Federally Listed

- Threatened (FT) or endangered (FE) species listed under the federal Endangered Species Act (ESA) (Title 50, CFR Section 17.11 or 17.12); no species that are candidates for listing under the ESA were identified by the USFWS Sacramento Field Office in the ROI;
- USFWS "Birds of Conservation Concern," including birds that are protected under the Bald and Golden Eagle Protection Act (BGEPA); and

State-Listed

- Threatened (ST) or endangered (SE) species under the California Endangered Species Act (CESA) (Sections 670.2 or 670.5, Title 14, California Code of Regulations).

3.5.1 Regulatory Framework

3.5.1.1 Federal

Endangered Species Act

The ESA was enacted to protect threatened and endangered species from extinction throughout all or a portion of their known ranges. The ESA makes it unlawful for any governmental agency to act in a way that could result in a "take" (i.e., to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or any attempt at such conduct") of a listed threatened or endangered species by organizing, funding, or performing actions that may affect the species itself or its known habitat without a permit. The USFWS maintains a list of protected species that occur in the U.S. and also acts as regulator and consultant with regard to protected species.

Provisions under the ESA allow for an authorized "incidental" take of listed species under certain terms and conditions while conducting otherwise lawful activities. The ESA has two processes through which an applicant may procure an Incidental Take Statement/Permit (ITS/ITP):

- **Section 7:** Applies to a project or action with a federal nexus, or where a federal agency is authorizing, funding, or granting a permit for an activity that may affect listed species (ITS); and
- **Section 10:** Applies to a project or action for which there is no federal nexus (ITP).

For federal activities that have the potential for incidental take and result in a "may affect and is likely to adversely affect" determination, the USFWS will prepare a BO, in addition to an ITS in order to avoid or minimize adverse impacts on listed species. As a reasonable and prudent measure, the ITS includes terms and conditions to ensure that conservation measures are fully implemented and that incidental take is monitored and reported.

Migratory Bird Treaty Act

The MBTA of 1918 (16 U.S.C. 703–712) provides protection for the majority of bird species occurring in the U.S. because it applies to nearly all migratory species. The MBTA implements treaties with several

other nations and was enacted in response to the declines of migratory bird populations from uncontrolled commercial uses. The MBTA makes it unlawful to pursue, hunt, take, capture, kill, possess, or sell birds listed under the MBTA without appropriate permits. Some very common or exotic species are not covered under the MBTA, including the European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), rock pigeon (*Columba livia*), and non-migratory species such as grouse, turkey, and ptarmigan. Several amendments have been made to the original law (including the Migratory Bird Treaty Reform Act of 1998). The statute does not discriminate between live or dead birds and grants full protection to any bird parts, including feathers, eggs, and nests, regardless of conservation status.

Bald and Golden Eagle Protection Act

The BGEPA prohibits any form of possession or taking of either the bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*). A "take" has been broadly interpreted to include altering or disturbing nesting habitat. A 1962 amendment created a specific exemption for possession of an eagle or eagle parts (e.g., feathers) for religious purposes of Indian tribes. Rule changes made in September 2009 (74 FR 175) finalized permit regulations to authorize a limited take of these species associated with otherwise lawful activities. These new regulations establish permit provisions for an intentional take of eagle nests under particular, limited circumstances (50 CFR 13 and 22). The regulations include a USFWS program that will allow issuance of two new types of permits: one addressing a take in the form of disturbance or an actual physical take of eagles (50 CFR 22.26) and the other providing for removal of nests (50 CFR 22.27). Most permits issued under the new regulations are expected to be those that would authorize disturbance, as opposed to a physical take (i.e., a take resulting in mortality). Permits for a physical take will be issued in very limited cases only, where every precaution has been implemented to avoid a physical take and where other restrictions and requirements will apply. In an effort to implement the new regulations, the USFWS has recently published technical guidance, which includes recommendations for applicants to prepare and submit an avian protection plan for USFWS review.

Clean Water Act Section 404

The CWA of 1977 regulates restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. The CWA authorizes the USACE to regulate the discharge of dredged or fill material into the Waters of the U.S. and adjacent wetlands. A discussion of the wetlands and Waters of the U.S. on the former NWS Concord is included in Section 3.14.

3.5.1.2 State

California Endangered Species Act

The CESA is similar to the federal ESA and is administered by the California Department of Fish and Wildlife (CDFW) under California Fish and Game Code Section 2050, *et seq*. The CESA was enacted to protect sensitive resources and their habitats and prohibits take (defined under this act as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") of CESA-listed species unless specifically provided for under another state law. This act does allow for an incidental take associated with otherwise lawful development projects. The CDFW is the agency with overall responsibility for administering the California Fish and Game Code. A project applicant is responsible for consulting with the CDFW, if required, to address activities that are likely to affect any CESA-listed threatened or endangered species or destroy or adversely affect habitat essential for such species. If take may occur, an Incidental Take Permit (California Fish and Game Code Section 2081) or Consistency Determination (i.e., with USFWS Section 7 consultation) (California Fish and Game Code Section 2080.1) is required.

California Fish and Game Code, Sections 1600–1616

Under Sections 1600-1616 of the California Fish and Game Code, any entity that proposes to substantially modify a river, stream, or lake is required to notify the CDFW and may be required to obtain

a Lake and Streambed Alteration Agreement. An activity that will 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; and/or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake is likely to require a Lake and Streambed Alteration Agreement.

California Fish and Game Code, Sections 3503 and 3503.5

California Fish and Game Code Section 3503 specifies the following general provision for birds: "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season that results in the incidental loss of fertile eggs or nestlings, or otherwise leads to nest abandonment, may be considered a take. Disturbance that causes nest abandonment and/or loss of reproductive effort may also be considered a take by the CDFW.

California Fish and Game Code, Sections 3511, 4700, 5050, and 5515

These code sections prohibit the taking and possession of birds, mammals, fish, and reptiles listed as "fully protected."

California Fish and Game Code, Section 3513

This code section provides for the adoption of the MBTA provisions. As with the MBTA, this state code offers no statutory or regulatory mechanism for obtaining an ITP for the loss of non-game migratory birds. The CDFW is the administering agency.

California Native Plant Protection Act of 1977; California Fish and Game Code, Section 1900

This law includes provisions that prohibit the taking of listed rare or endangered plants from the wild. The law also includes a salvage requirement for landowners. Furthermore, it gives the CDFW the authority to designate native plants as endangered or rare and provides specific protection measures for identified populations. Under Section 1913(B) of the California Fish and Game Code, actions undertaken by an agency or publicly or privately owned public utility to fulfill its obligation to provide service to the public are exempted from take prohibitions under the Native Plant Protection Act.

California Code of Regulations, Sections 670.2 and 670.5

These code sections list wildlife and plant species that are threatened or endangered in California or by the federal government under the ESA. Species that are likely to become threatened or endangered in the foreseeable future are designated California Species of Special Concern (SSC) by the CDFW.

3.5.1.3 Regional and Local

City of Concord Municipal Code (Heritage Trees, CMC 1965, § 4301)

The Concord Municipal Code includes a tree-protection ordinance for heritage trees, which are defined by size, relationship to historical significance, or designation by the planning commission. The tree protection ordinance specifies permit requirements, including protective measures for construction work in the vicinity of heritage trees, removal of heritage trees, and replacement requirements.

East Bay Regional Park District Master Plan

The EBRPD manages 65 regional parklands on approximately 113,000 acres of land in Contra Costa and Alameda counties. The EBRPD 2013 Master Plan (EBRPD 2013a) defines policies intended to guide the

stewardship and development of the parks with the goal of balancing environmental concerns with provisions for outdoor recreational opportunities. (See Section 3.2.4 for a list of the policies applicable to regional parks.) Most of the parklands managed by the EBRPD are wildland areas and maintained as undeveloped, open spaces. Passive recreational uses, such as hiking, are supported by the network of trail systems developed and maintained by the EBRPD in open-space parkland areas (EBRPD 2013a; Holt 2014b).

3.5.2 Background/Methodology

Existing conditions related to biological resources were characterized by reviewing current aerial photography, as well as recent and historical studies related to biological resources at NWS Concord and additional data published by federal and state natural resource agencies. Specific literature and reports considered are presented in Table 3.5-1.

Table 3.5-1 Biological Resource Surveys Completed in the Proposed Action Area

Citation	Survey Type	Survey Description	Dates Completed	Project Components Surveyed
1990 - 2000				
Downard et al. (1999)	Natural resources surveys by University of Arizona Advanced Resources Technology Group	Site-wide inventory of common and special status bird, mammal, amphibian, reptile, and plant species and a comparative analysis of 1982 survey results.	1998-1999	Former NWS Concord
2001 - 2010				
Tetra Tech, Inc. (2002)	Integrated natural resources management plan and environmental assessment by the Navy	Summary of biological survey data since 1982.	2002	No field survey
Ecorp Consulting, Inc. (2004)	Federally listed brachiopods	90-day report of findings of dry season and wet season aquatic invertebrate surveys	2004	Within 145 acres of the former NWS Concord
Smallwood and Morrison (2007)	Amphibian surveys by Smallwood and Morrison on behalf of Navy	Assessment of population and distribution of California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*).	2005-2006	Potential aquatic habitat identified in previous surveys
CH2M Hill (2007, 2008a, 2008b, 2008c, 2008d, 2008e, 2008f)	Stream assessment and presence of sensitive natural resources or special status species on behalf of City of Concord; verification by H.T. Harvey & Associates	Assessment of Mt. Diablo Creek, including corridor conveyance, stream flow, sediment transport, water temperature, and fish passage. Presence and distribution of vegetation types, wildlife habitat, special status species, wetlands, and mature native trees.	2007-2009	Mt. Diablo Creek watershed and former NWS Concord

Table 3.5-1 Biological Resource Surveys Completed in the Proposed Action Area

Citation	Survey Type	Survey Description	Dates Completed	Project Components Surveyed
Vollmar Natural Lands Consulting (2008)	Special status plant surveys on behalf of City of Concord	Presence of general plant communities, special status plants, and noxious weeds.	2008	Former NWS Concord
EDAW (2008); Ecology and Environment, Inc. and Swaim Biological, Inc. (2009); Ecology and Environment Inc. and Foothill Associates (2009).	Focused resource assessments on behalf of Navy	California tiger salamander habitat value, dispersal capabilities; habitat assessment for Alameda whipsnake (*Masticophis lateralis*) and least Bell's vireo (*Vireo bellii pusillus*); protocol surveys for vernal pool brachiopods and least Bell's vireo	2008-2009	Former NWS Concord
City of Concord (2010)	H.T. Harvey & Associates conducted habitat and verification surveys during 2008 and 2009 in conjunction with the preparation and analyses of the EIR	Plants, habitats, amphibians, reptiles, mammals, and birds.	2008-2009	Former NWS Concord
Hicks 2011; City of Concord (2013c)	Wetland mapping and monitoring by Vollmar Natural Lands Consulting and H.T. Harvey & Associates on behalf of City of Concord	Determination of the location and precise boundaries of potential jurisdictional wetlands and other aquatic features.	2008-2009	Former NWS Concord

Literature Review

The literature review included a search for special status plant and wildlife species and sensitive vegetation community occurrences on the former NWS Concord and ROI, as recorded in the California Natural Diversity Data Base (CNDDB). CNDDB records of occurrences were reviewed for the U.S. Geological Survey (USGS) 7.5-minute Clayton quadrangle (quad), where a majority of the proposed action area is located. The surrounding 11 USGS 7.5-minute quads—Benicia, Briones Valley, Oakland East, Vine Hill, Walnut Creek, Las Trampas Ridge, Diablo, Tassajara, Antioch South, Antioch North, and Honker Bay—were also reviewed for CNDDB occurrences. In addition to the CNDDB, the following sources were reviewed to describe the biological resources:

- USFWS list of endangered, threatened, and proposed species obtained from the USFWS Sacramento Field Office (USFWS 2014a);
- USFWS' online Critical Habitat Portal (USFWS 2014b);
- The California Native Plant Society (CNPS) 2014 online *Inventory of Rare and Endangered Plants of California* (CNPS 2014);

- The City of Concord's EIR, which reviewed and incorporated an extensive database of information related to the former NWS Concord; and
- The City of Concord's Biological Assessment (BA) for the Concord Reuse Project – Area Plan (City of Concord 2013c).

Surveys Conducted

Table 3.5-1 summarizes the biological resource reports and surveys conducted at the former NWS Concord by the Navy, and in support of the City of Concord's CEQA EIR.

3.5.3 Vegetation Communities and Habitats

As shown on Figure 3.5-1 and listed in Table 3.5-2, the former NWS Concord comprises a total of eight vegetation communities: California annual grassland, coyote brush/coastal sage scrub, oak savannah/woodland, riparian woodland, wetlands and non-wetland waters (e.g., freshwater marsh; seasonal wetlands; and creeks, drainages, canals, and ponds), orchards and plantations, and a vegetated recreational area (the golf course). In addition, approximately 484 acres of the former NWS Concord is defined as "developed" or previously disturbed by development and is therefore categorized as ruderal/urban. A description of each of the vegetation communities follows.

Table 3.5-2 Summary of Vegetation Communities and Habitats within the Former NWS Concord

Vegetation Community Type	Approximate Acreage	Percent Site Coverage
California Annual Grassland	4,046	81.5
Coyote Brush Scrub/Coastal Sage Scrub	5	0.1
Oak Woodland/Savannah	108	2.2
Riparian Woodland	31	0.6
Wetlands and Non-Wetland Waters[2]:		
• Freshwater Marsh	6	0.1
• Seasonal Wetlands (including seeps and springs)	18	0.4
• Creeks, Drainages, Canals, and Ponds[3]	14	0.3
Ruderal/Urban	484	9.7
Orchards and Plantations	156	3.1
Recreation (Golf Course)	99	2.0
Total	**4,967[1]**	**100**

Source: Ecology and Environment, Inc. GIS analysis based on City of Concord data provided by Chazan (2017).

[1] As noted in Section 1.10 of this Final EIS, the total area of the surplus property is currently estimated to be 4,972 acres, which is 66 acres less than the surplus property reported in the Draft EIS. The community types in Table 3.5-2 do not account for habitats in the vicinity of State Route 4. Acreages are provided for planning purposes only and do not necessarily reflect the total acreage of the surplus property.

[2] Wetland acreages presented are not directly comparable to acreages presented in Section 3.14 or the USACE San Francisco District Public Notice as the GIS data layer for vegetation communities and habitats is not based on wetland field delineations.

[3] Seven man-made ponds located in the Golf Course are included under Recreation.

California Annual Grassland

The predominant plant community within the former NWS Concord is California annual grassland. Approximately 4,046 acres (82 percent of the total vegetative cover) of this community type is located within the site. On the lower hills and flatlands of the site, much of the native vegetation within this community has been altered by farming, which took place from the late 1800s through the 1940s, and grazing, which has taken place since 1975 (City of Concord 2010). Invasion by exotic annual grasses, drought, and grazing have led to a decline in annual grassland species and an increase in disturbance-

tolerant species. For example, the highly invasive yellow star-thistle (*Centaurea solstitialis*) accounts for nearly 25 percent of the vegetative cover in approximately two-thirds of the former NWS Concord (City of Concord 2010). Other non-native species present include wild oats (*Avena fatua*), ripgut grass (*Bromus diandrus*), and Italian ryegrass (*Lolium multiflorum*).

While the California annual grassland community on the former NWS Concord is dominated by non-native species, small, remnant stands of native perennial grasslands are present. These stands consist of purple needlegrass (*Nassella pulchra*), Sandberg bluegrass (*Poa secunda*), California fescue (*Festuca californica*), California melic (*Melica californica*), California poppy (*Eschscholzia californica*), purple owl's clover (*Castilleja exserta*), blue-eyed grass (*Sisyrinchium bellum*), and creeping wildrye (*Leymus triticoides*).

Coyote Brush Scrub/Coastal Sage Scrub

Two areas of shrub-dominated plant communities cover a total of approximately five acres, or 0.1 percent, of the former NWS Concord. The first area is near the unused airfield in the western portion of the site and is dominated by mature stands of coyote brush (*Baccharis pilularis*). Although there is a relatively sparse understory composed largely of non-native annual grasses and forbs interspersed throughout this community, the relatively dense overstory provided by the coyote brush affords few opportunities for other species to become widely established. The second scrub-dominated community occurs on a northwest-facing slope within Rattlesnake Canyon in the southeast corner of the site. This is best described as California sage scrub (also classified as Diablan sage scrub in areas from Mount Diablo south to the Cholame Hills, well inland from the coastal fog incursion zone [Holland 1986]) as it is dominated by California sagebrush (*Artemisia californica*). Although there is a limited distribution and size of the coyote brush scrub/coastal sage-scrub habitat association on the former NWS Concord, the community type is abundant in surrounding areas.

Oak Woodland/Savannah

Oak woodland is defined as grassland with a tree canopy cover of 10 percent or greater, whereas oak savannah is defined as grassland with a tree canopy cover of 5 percent to 10 percent (East Contra Costa County Habitat Conservancy 2006). The majority of oak woodland found at the site is in the form of small, clustered pockets of trees occurring on more mesic sites within the larger oak savannah/grassland. Approximately 108 acres of oak woodland/savannah is present within the former NWS Concord.

Riparian Woodland

Woody riparian plant communities on the former NWS Concord include vegetation directly associated with Mt. Diablo Creek, along Willow Pass Creek and its alluvial fan, and in two areas located south of the old airfield. Riparian woodland within the former NWS Concord is very limited in extent, occupying less than 1 percent of the site (approximately 31 acres). These areas are dominated by a variety of trees and shrubs, including red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), Fremont cottonwood *(Populus fremontii* ssp. *fremontii*), California buckeye (*Aesculus californica*), California black walnut (*Juglans californica*), and Oregon ash (*Fraxinus latifolia*). Other species present include poison oak (*Toxicodendron diversilobum*), mulefat (*Baccharis salicifolia*), Himalayan blackberry (*Rubus discolor*), California rose (*Rosa californica*), and tree-of-heaven (*Ailanthus altissima*).

Riparian woodlands are often associated with transition zones between wetlands or ponds and upland areas. Riparian vegetation associated with Willow Pass Creek at the north end of the site is largely composed of a narrow and poorly developed riparian corridor supporting small trees and shrubs located in and directly adjacent to the deeply incised and actively eroding banks of the stream. The poorly developed riparian woodlands within the station are partially a result of the incision of the channel and the unstable banks along the majority of Willow Pass Creek.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\Vegetation_new.mxd

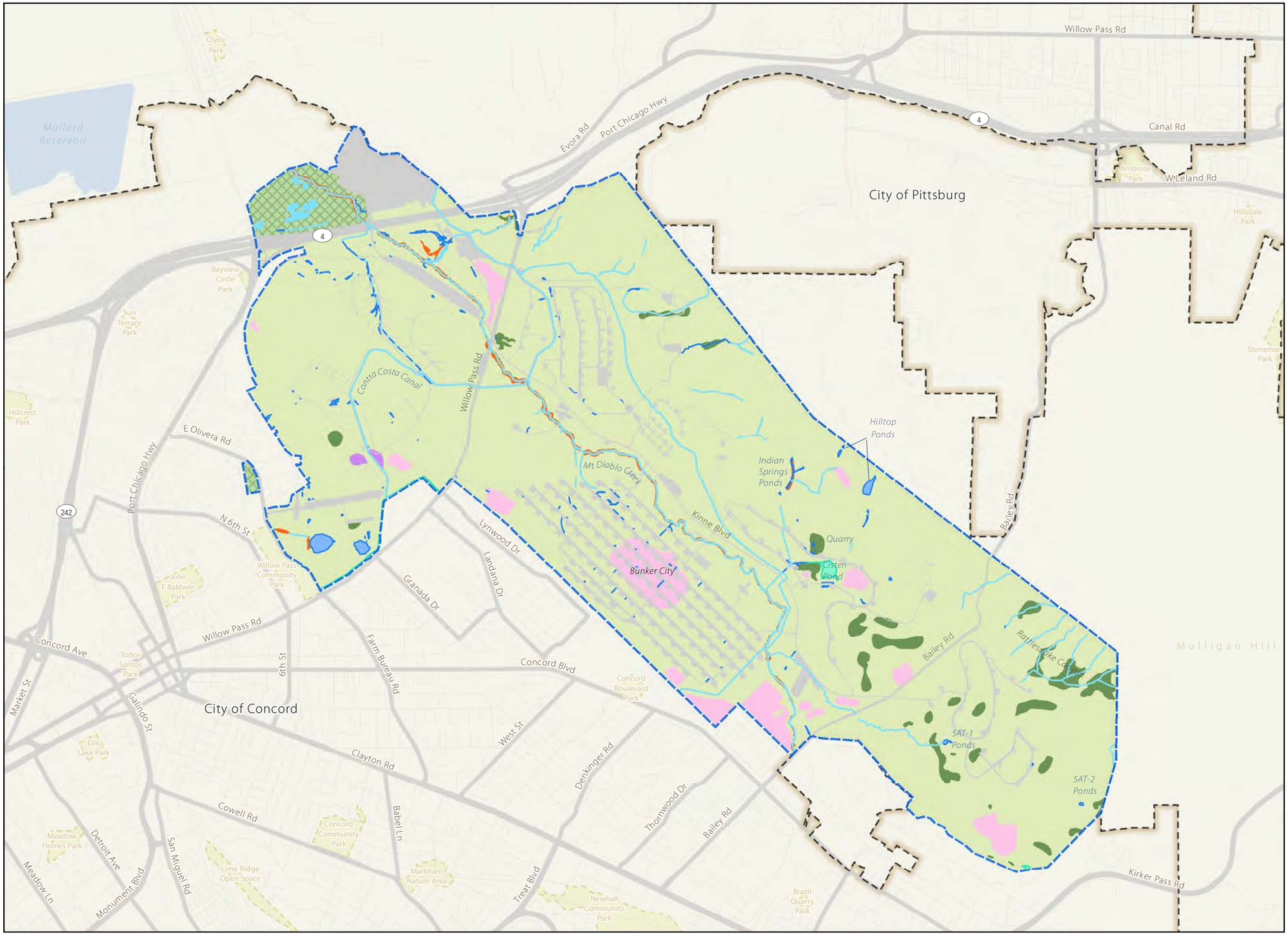


Figure 3.5-1
Vegetation Communities and Habitats
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody

Vegetation Type

- Seasonal Wetlands
- Ruderal/Urban
- Creeks / Drainages / Canals / Ponds
- California Annual Grassland
- Freshwater Marsh
- Coyote Brush / Coastal Sage Scrub
- Golf Course / Recreation
- Oak Woodland / Savannah
- Orchards and Plantations
- Riparian Woodland

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; H. T. Harvey & Associates, 2009.

This page intentionally left blank.

Wetlands and Non-wetland Waters

Wetlands on the former NWS Concord include freshwater marsh and seasonal wetlands; non-wetland waters include creeks, drainages, canals, and ponds. A detailed discussion of the wetland cover types and wetland functions and values is described in Section 3.14 (Water Resources).

Ruderal/Urban

Approximately 484 acres (10 percent of the site) is developed with urban and industrial areas, including roadways, parking lots, runways, railroad yards, and asphalt aprons surrounding buildings. Such areas often contain patches of ruderal vegetation as well as landscaped trees and shrubs. Also included are a wide variety of structures, including buildings, bridges, and bunkers. The roofs of the bunkers are covered with soil and provide some grassland habitat.

Orchards and Plantations

Several eucalyptus groves and tree plantations are located on the former NWS Concord. Approximately 156 acres of orchards and plantations are found within the installation. The eucalyptus trees were originally planted by homesteaders in the early 1880s for windbreaks; more recently, the University of California Cooperative Extension planted eucalyptus trees to evaluate the cost of eucalyptus energy production. Abandoned walnut (*Juglans* spp.) orchards are also present north and south of Bunker City. The USFS also maintained eucalyptus plantations located north of Bailey Road at Mt. Diablo Creek. The USFS program lost sponsorship several years ago, and the plots are no longer maintained. For fire protection purposes, the Navy has required the USFS to thin the eucalyptus groves to reduce fuel loads as a requirement for termination of their lease (City of Concord 2010).

Recreation (Golf Course)

Recreational areas within the former NWS Concord include the golf course and ball fields located west of East Olivera Road. These areas comprise approximately 99 acres, or 2 percent of the former NWS Concord. As illustrated in Figure 3.5-1, the Diablo Creek Golf Course is located at the northwestern end of the former NWS Concord, and it is bisected by Mt. Diablo Creek. Plant species located within the recreational areas includes elm (*Ulmus* sp.), palm (*Phoenix canariensis*), blue gum eucalyptus (*Eucalyptus globulus*), beefwood (*Casuarina* sp.), and pine (*Pinus* sp.). Cattails (*Typha* sp.) and bulrushes (*Schoenoplectus* sp.) have become established in shallow portions of the golf course ponds and a drainage ditch located along the south side of the golf course. The remainder of the golf course is planted with a variety of horticultural grass species used within the active play areas, including bluegrass (*Poa* sp.) and fescue (*Festuca* sp.).

3.5.4 Fish and Wildlife

A variety of regionally abundant wildlife species is likely to occur throughout the former NWS Concord. Approximately 155 bird species, 23 mammal species, 15 reptile species, and seven amphibian species were observed during surveys conducted between July 1998 and September 1999 (City of Concord 2010). More common bird species observed include the western meadowlark (*Sturnella neglecta*), horned lark (*Eremophila alpestris*), killdeer (*Charadrius vociferous*), American kestrel (*Falco sparivers*), California towhee (*Pipilo crissalis*), Brewer's blackbird (*Euphagus mexicanus*), and red-tailed hawk (*Buteo jamaicensis*). Mammals include the house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), and striped skunk (*Mephitis mephitis*). The most common reptile and amphibian species observed include the western fence lizard (*Sceloporus occidentalis)*, gopher snake (*Pitophis catenifer*), western rattlesnake (*Crotalus viridis*), and western toad (*Bufo boreas*).

Common amphibians and reptiles observed in aquatic habitats include the Pacific treefrog (*Pseudacris regilla*), western toad, and common garter snake (*Thamnophis sirtalis*). Birds that breed in aquatic habitat include the mallard duck (*Anan platyrynchos*), red-winged blackbird (*Agelaius phoneniceus*), marsh wren

(*Cistothorus palustris*), and American coot (*Fulica americana*). The creeks, drainages, canals, and ponds within the former NWS Concord have been extensively and adversely affected by human activities that have altered their hydrology, function, and quality as aquatic wildlife habitat. Mt. Diablo Creek experiences seasonal flows and is generally degraded in character. However, the creek may support several fish species, such as the common carp (*Cyprinus carpio*), three-spined stickleback (*Gasterosteus aculeatus*), and California roach (*Lavinia symmetricus*) during periods of high flows.

3.5.5 Special Status Species

The following discussion addresses special status plant and wildlife species that may occur at the former NWS Concord. To address species covered under Section 7 of the ESA, the Navy reviewed the USFWS's Sacramento Field Office website (USFWS 2014a), as well as the USACE's BA for CWA Section 404 permitting associated with implementation of the Area Plan (City of Concord 2013c). In addition, the Navy reviewed the CNDDB and additional literature described in Section 3.5.2 to identify state-listed species protected under the CESA. Once the greater species lists were compiled, biologists who were familiar with existing vegetation communities and habitats at the site, as well as the historical biological studies for the former NWS Concord, eliminated a number of species from the list that were believed to be absent from the site. Those included species that were absent during prior surveys, species whose extirpation from the region is presumed or confirmed, or species for which essential habitats or microhabitats are not present at the site. A complete list of the species identified through the USFWS and CNDDB search are located in Appendix D, Table D-1 for plants and Table D-2 for wildlife. Species that have been previously documented at the former NWS Concord or that have suitable habitat and the likelihood to occur are discussed in additional detail in this section of the EIS.

3.5.5.1 Special Status Plant Species

Federally Listed Species

The Navy conducted a review of the current listing (April 2014) for the federally listed plant species by the USFWS, as well as federally listed species identified in a CNNDB search for the former NWS Concord. In preparing the Final EIS in 2017, current species listings were confirmed to be unchanged from previous data compiled in 2014. The USFWS listing of species was determined utilizing the USFWS's defined action area (e.g., USGS 7.5-minute quads located within and surrounding the former NWS Concord). The USGS quads searched include Vine Hill, Honker Bay, Walnut Creek, and Clayton, which encompass the former NWS Concord, and eight surrounding land-based quadrangles from northwest to the northeast (i.e., Antioch North, Antioch South, Tassajara, Diablo, Las Trampas, Oakland East, Briones Valley, and Benicia). A species also was considered for occurrence if CNDDB records and/or professional expertise specific to the former NWS Concord showed that the species is known to occur within 5 miles of the former NWS Concord and there is ideal habitat for it within the site. A species was determined unlikely to occur if it had been identified in the CNDDB records but the recorded observations were over 10 years old, key habitat requirements were absent, or the habitat on the former NWS Concord is so degraded, small, or isolated that it would be very unlikely for the species to inhabit the area.

A total of 16 species of plants listed under the federal ESA or the CESA (11 federally listed and 13 state-listed species) were identified for the former NWS Concord and the surrounding region. A complete list of the species is presented in Appendix D, Table D-1. Based on a review of the existing vegetation communities and habitats for the former NWS Concord, none of the 11 federally listed plants identified by the USFWS or the CNDDB searches are present or suitable habitat conditions for them are not found on the site. Indeed, no federally listed plants have been identified during past botanical surveys on the former NWS Concord (Vollmar Natural Lands Consulting 2008, City of Concord 2010). This finding was

consistent with the listing of species presented by the USACE in its consultation submitted to the USFWS (City of Concord 2013c) in May 2013; no federally listed plants were identified.

State-Listed Species

The CNDDB database contained 13 plants that are listed as threatened or endangered under the CESA for the former NWS Concord and the surrounding region. A complete list of the species is presented in Appendix D, Table D-1. According to existing studies, none of the species listed on the CESA have been observed at the former NWS Concord, and, for the majority of the species, suitable habitat does not exist at the site. These findings are primarily based upon botanical surveys conducted throughout various blooming periods during the 2008 field season (Vollmar Natural Lands Consulting 2008), as well as additional field surveys during the 2009 field season (City of Concord 2010).

Although past surveys did not document any federally or state-listed species, two species of concern were identified as having suitable habitat at the site and were described as having the potential for occurrence. The big tarplant (*Blepharizonia plumosa*) is listed as 1B.1 (extremely endangered in California) by CNPS and has been documented within 3 miles of the site in foothill grasslands, similar to habitat conditions at the former NWS Concord (Vollmar Natural Lands Consulting 2008). The round-leaved filaree (*California macrophylla*) is listed as 1B.2 (fairly endangered) by CNPS and has been documented in similar habitats within 1 mile of the site. However, climatic conditions were noted as unusually dry during the spring blooming period in 2008, possibly preventing the detection of this species. Subsequent surveys during the spring of 2009 also failed to detect these species, but the City of Concord (2010) FEIR did not rule out their potential to occur based on the suitability of habitat at the former NWS Concord.

3.5.5.2 Special Status Wildlife Species

Federal and state listed wildlife species are included in Table 3.5-3.

Federally Listed Species

The Navy conducted a review of the current listing for the federally listed wildlife species by the USFWS, as well as federally listed species identified in a CNNDB search for the former NWS Concord. The procedure was consistent with the process used to identify listed plants as described in Section 3.5.4.1.

A total of 29 species of wildlife listed under the federal ESA were identified for the former NWS Concord and the surrounding region. A complete list of these species is presented in Appendix D, Table D-2. Based on a review of the existing vegetation communities and habitats for the former NWS Concord, as well as past survey efforts, only three federally listed species inhabit or have the potential to occur at the former NWS Concord: the California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), and the Alameda whipsnake (*Masticophis lateralis euryxanthus*); all three have a federal listing status of "threatened." Additional information regarding each of these species is provided below as a description of the baseline condition for the former NWS Concord.

California Red-legged Frog. The California red-legged frog inhabits perennial freshwater pools, streams, and ponds in the Central California Coast Ranges. The persistence of this species depends on the availability of emergent vegetation to provide refugia and a lack of aquatic predators, such as crayfish, bullfrogs, and fish. California red-legged frog tadpoles were introduced into Cistern Pond within the former NWS Concord in 1982 by the California Department of Fish and Wildlife (CDFW, formerly known as the California Department of Fish and Game [CDFG]) and have expanded their range since then to occupy Cistern Pond, upper Cistern Pond, and several locations along Mt. Diablo Creek. During surveys in 2009, the population at Cistern Pond was found to be extremely healthy. Although the species has not been recorded breeding at the Diablo Creek Golf Course, the course ponds provide potential breeding habitat. Due to the absence of suitable breeding pools, Mt. Diablo Creek does not provide

Table 3.5-3 Federal and State Listed Wildlife with Potential to Occur on the Former NWS Concord

Species	Scientific Name	Federal/State Listing Status	Habitat	Potential to Occur
California red-legged frog	*Rana draytonii*	FT/SSC	This large, aquatic frog requires deep seasonal pools with riparian vegetation for breeding. Individuals are known to move long distances between water bodies. Lack of access to upland refugia, such as small mammal burrows, is considered a limiting factor for this species.	**Present**. Individuals were observed in Cistern Pond, upper Cistern Pond, and several locations along Mt. Diablo Creek.
California tiger salamander	*Ambystoma californiense*	FT/ST	Occurs primarily in grassland habitats. Requires seasonal pools, especially those that retain water until May or June, for breeding and egg-laying. This species spends most of its life underground in small mammal burrows.	**Present**. Individuals were observed in nine seasonal wetlands and ponds within the southeastern portion of the former NWS Concord, according to surveys conducted in 1999. No suitable habitat is present northwest of Willow Pass Road.
Alameda whipsnake	*Masticophis lateralis euryxanthus*	FT/ST	Found in coastal scrub and chapparal communities but will forage in grasslands and open woodlands. Requires access to rock crevices or small mammal burrows for refuge.	**Unlikely**. No suitable breeding habitat exists within the former NWS Concord. However, small areas of suitable foraging habitat occur southeast and northwest of Bailey Road.
Bald Eagle	*Haliaeetus leucocephalus*	None/SE	Large, distinctive eagle. Nests in mature and old growth forest adjacent to large bodies of water.	**Unlikely**. A single juvenile bald eagle was observed in historic surveys; individuals are considered transient in nature, with the potential to forage over the former NWS Concord, but this species is not expected to breed on-site.

Table 3.5-3 Federal and State Listed Wildlife with Potential to Occur on the Former NWS Concord

Species	Scientific Name	Federal/State Listing Status	Habitat	Potential to Occur
Swainson's hawk	*Buteo swainsoni*	None/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, grasslands, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields with abundant rodents.	**Unlikely**. Suitable foraging habitat exists on the site, but potential breeding habitat is likely limited. This species has not been documented during previous bird surveys.

Sources: City of Concord 2010, 2013c; CNDDB 2014, USFWS 2014a.

Key:
Listing Status:

Federal
FT = Listed as threatened under the federal Endangered Species Act.
BGEPA = Protected under the Bald and Golden Eagle Protection Act.
ESA Candidate Species = Species being considered for listing as threatened or endangered under the federal Endangered Species Act.

State
SE = Listed as endangered under the California Endangered Species Act.
ST = Listed as threatened under the California Endangered Species Act.
SSC = California Department of Fish and Wildlife species of special concern.

suitable breeding habitat. In addition, no California red-legged frogs were observed at the freshwater marsh and seasonal pools near the old airfield, where crayfish were observed. The former NWS Concord contains upland areas with small mammal burrows adjacent to aquatic habitat that could be utilized by this species as refugia. In addition, grasslands within the former NWS Concord have the potential to support upland habitat for the California red-legged frog.

California Tiger Salamander. The California tiger salamander is a large-bodied salamander native to vernal pool habitats and their associated uplands in Central California from Yolo to Santa Barbara counties. California tiger salamander larvae are fully aquatic and rely on seasonal pools lacking predatory species such as fish, crayfish, and bullfrogs. Adults are highly dependent on small mammal burrows in upland areas adjacent to vernal pools (Loredo et al. 1996; Trenham 2001). Within the former NWS Concord, this species breeds in the southeastern half of the site in a number of seasonal pools or small ponds and was observed at nine site locations during surveys in 1999. Cistern Pond and lower Indian Springs Pond represent the highest-quality habitat for this species on-site; consequently, the largest number of individuals were observed at these locations. According to recent studies, upland habitat for 95 percent of the population extends to up to 2,200 feet from occupied breeding habitat (Trenham and Shaffer 2005). Thus, grassland areas within the former NWS Concord have the potential to support the California tiger salamander. However, available data suggest that the California tiger salamander is absent from the northwest portion of the station. More recent survey efforts on the station have failed to detect any California tiger salamanders northwest of Willow Pass Road, including during the 2011 breeding season, which had above-average rainfall and suitable hydrology to promote the dispersal of breeding adults into this area (City of Concord 2013c).

Alameda Whipsnake. The Alameda whipsnake is a subspecies of the California whipsnake that occurs in partially open, low-growing shrub communities in the inner Coast Ranges of Contra Costa, Alameda, San Joaquin, and Santa Clara counties. The presence of this species on the former NWS Concord is unlikely because of the lack of extensive shrub-scrub habitats on the site and the site's distance from potential source populations of the snake. However, potential foraging habitat was determined to be present in the small patches of sage scrub in upper Rattlesnake Canyon and in grassland with rock outcrops in the areas southeast and just northwest of Bailey Road (City of Concord 2013c; Ecology and Environment, Inc. and Swaim Biological, Inc. 2009).

The USACE included two additional species in the BA for the Area Plan, the Central California coast steelhead (*Oncorhynchus mykiss*) and the San Joaquin kit fox (*Vulpes macrotis mutica*). The steelhead is an anadromous species (i.e., it migrates from saltwater to freshwater for reproduction) and is believed to be absent from the site, based on the inability of a fish to migrate from the Suisun Bay to streams on the site. In addition to a number of culverts and bridge crossings on the site, a known utility line berm containing several buried pipelines crosses Mt. Diablo Creek north of the site before the creek's confluence with the Suisun Bay and prohibits routine fish migration from the bay to the site. Past studies regarding the San Joaquin kit fox have failed to detect the fox on-site, or even in the areas adjacent to the site (Smith et al. 2006). In addition, available range maps for the kit fox predominately show its distribution east of the site in the grasslands on the east side of the Los Medanos Hills (East Contra Costa County Habitat Conservancy 2006; Smith et al. 2006; USFWS 1998). Additional discussion regarding the absence of these two species is provided in the BA (City of Concord 2013c), as well as the FEIR for the Reuse Plan (City of Concord 2010).

The remaining species identified as federally listed endangered or threatened were determined to be absent or unlikely to be present on-site based on lack of suitable habitat or absence during past surveys. These species include the endangered California freshwater shrimp (*Syncaris pacifica*), Callippe silverspot butterfly (*Speyeria callippe callippe*), Conservancy fairy shrimp (*Branchinecta conservatio*), Lange's metalmark butterfly (*Apodemia mormo langei*), longhorn fairy shrimp (*Branchinecta*

longiantenna), San Bruno butterfly (*Callophrys mossii bayensis*), vernal pool tadpole shrimp (*Lepidurus packardi*), central California coast coho salmon (*Oncorhynchus kisutch*), Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), tidewater goby (*Eucyclogobius newberryi),* California clapper rail *(Rallus longirostris obsoletus),* California least tern (*Stenula antillarum browni*), and the salt marsh harvest mouse (*Reithrodontomys raviventris*). Federally listed threatened species determined to be absent or unlikely to be present on-site based on lack of suitable habitat or absence during past surveys include the bay checkerspot butterfly (*Euphydryas editha bayensis*), delta green ground beetle (*Elaphrus viridis*), valley elderberry longhorn beetle (*Desmocercus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), Central Valley steelhead, Central Valley spring-run and winter run Chinook salmon, delta smelt (*Hypomesus transpacificus*), green sturgeon (*Acipenser medirostris*), longfin smelt (*Spirinchus thaleichthys*), giant garter snake (*Thamnophis gigas*), and western snowy plover (*Charadrius alexandrinus nivosus*). Appendix D, Table D-2, provides a summary of the habitat requirements of each of these species and reasoning for their assumed absence or unlikely presence at the former NWS Concord.

Bald and Golden Eagle Protection Act. The bald eagle (*Haliaeetus leucocephalus*) is no longer a listed species under the federal ESA but still has regulatory protection under the BGEPA. As its name implies, the golden eagle (*Aquila chrysaetos*) is also protected under the BGEPA. The bald eagle is also listed as a state endangered species, while the golden eagle has no additional state designation.

No known bald eagle nests are located in the vicinity of the former NWS Concord, and only one immature bald eagle siting is known, from the 1980s (City of Concord 2010). However, bald eagles have the potential to be considered transients and may occasionally forage in the grasslands over the former NWS Concord. A known golden eagle nest is located along the eastern border of the station in the Los Medanos Hills area. The nest has been located in a eucalyptus grove along the eastern boundary of the site and has been active for a number of years, resulting in the Navy placing a fence and signage around the nest to minimize disturbance to the area (City of Concord 2010). Based on breeding bird atlas data, several known golden eagle nests are also found to the south of the site (Flyingemu 2014a). These nesting pairs likely use the former NWS Concord as foraging habitat.

State-Listed Species

The CNDDB database contained 15 wildlife species that are listed as threatened or endangered under the CESA for the former NWS Concord and the surrounding region. A complete list of the species is presented in Appendix D, Table D-2. According to existing studies, the majority of the species listed on the CESA do not have suitable habitat conditions at the station. Five state-listed species have the potential to be present on the site: the California tiger salamander, Alameda whipsnake, bald eagle, peregrine falcon (*Falco peregrinus anatum*), and Swainson's hawk (*Buteo swainsoni*). As previously discussed, the California tiger salamander and the Alameda whipsnake are federally listed species with presence or potential presence on the site, and the bald eagle has the potential to be a transient.

The peregrine falcon, a state-listed endangered species, may forage on the site, but no suitable nesting habitat exists for it; there are confirmed nesting pairs to the south of the station. The Swainson's hawk is a state-listed threatened species that may forage in the grasslands on the station. This species requires grasslands with scattered woodlands throughout for breeding and forages primarily in grassland areas. While no confirmed breeding by the species has been documented on the station, Swainson's hawks are known to breed in eastern Contra Costa County (Flyingemu 2014b), and these breeding pairs and their offspring could potentially forage in suitable habitats at the former NWS Concord. One state-listed species—the California black rail (*Laterallus jamaicensis coturniculus*) does not have federal protection and was determined to be absent because of the lack of suitable habitat on the station.

The State of California also classifies species as "fully protected" or "species of special concern" based on their sensitivity and potential as indicator species or for listing under the CESA. Several of these species have the potential to occur on the former NWS Concord: the fully protected golden eagle, peregrine falcon, and white-tailed kite (*Elanus leucurus*). The white-tailed kite has been documented nesting in trees along the riparian corridors within the station. Several species of special concern are also known to inhabit the site, including the western pond turtle (*Actimemys marmorata*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cynaneus*), tricolored blackbird (*Agelaeis tricolor),* American badger (*Taxideus taxus*), and Townsend's big-eared bat (*Corynorhinus townsendii*). Some special status wildlife species may occur within the former NWS Concord only as migrants or transients, or they may forage within the former NWS Concord in low numbers while breeding in adjacent areas. However, these species are not expected to breed within the former NWS Concord or to be substantially affected by the proposed action. These species include the coast horned lizard (*Phrynosoma coronatum frontale*), bald eagle, Swainson's hawk, peregrine falcon (*Falco perigrinus anatum*), short-eared owl (*Asio flammeus*), long-eared owl (*Asio otus*), Vaux's swift (*Chaetura vauxi*), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), olive-sided flycatcher (*Conopus cooperi*), yellow warbler (*Dendroica petechial*), grasshopper sparrow (*Ammodramus savannarum*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), and western red bat (*Lasiurus blossevilli*).

3.6 Cultural Resources

This section describes the regulatory setting, cultural setting, and cultural resources identified for the proposed action.

3.6.1 Regulatory Framework

Cultural resources are historic districts, sites, buildings, structures, or objects considered important to a culture, subculture, or community for scientific, traditional, religious, or other purposes. They include archaeological resources (both prehistoric and historic), historic architectural/engineering resources (buildings, structures, and other built resources), and traditional resources (resources important to living Native Americans for religious, spiritual, ancestral, or traditional reasons). Cultural resources that are eligible for listing in the NRHP are called historic properties and are evaluated for potential adverse effects from an undertaking. In addition, some cultural resources, such as Native American sacred sites or traditional resources, may not be historic properties, but they are also evaluated under NEPA for potential adverse effects from a major federal action. These resources are identified through consultation with appropriate Native American or other interested groups.

Implementation of the proposed action is subject to compliance with a number of federal regulations for the protection of cultural resources and historic properties because the former NWS Concord is federally owned property. These federal regulations include Section 106 of the NHPA, as amended, and its implementing regulations at 36 CFR 800 and the federal Archaeological Resources Protection Act (ARPA).

3.6.1.1 Section 106 of the National Historic Preservation Act of 1966

Section 106 of the NHPA, as amended, and its implementing regulations at 36 CFR 800 require that federal agencies take into account the effects of their actions (referred to as "undertakings" under Section 106 on properties that may be eligible for or listed in the NRHP and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (i.e., archaeological, historical, and architectural properties) that could be affected by the undertaking must be inventoried and evaluated for inclusion in the NRHP.

The NRHP is a register of districts, sites, buildings, structures, and objects of significance in American history, architecture, archaeology, engineering, and culture. The NRHP is maintained by the Secretary of the Interior. A property may be listed in the NRHP if it meets criteria for evaluation defined in 36 CFR 60.4. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and one or more of the following four criteria:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.

Under Section 106 of the NHPA, only cultural resources that have been determined to be eligible for listing in the NRHP or that are listed in the NRHP need to be considered when evaluating an undertaking's effects on cultural resources.

The regulations implementing Section 106 require consultation by the lead federal agency with the State Historic Preservation Office (SHPO), federally recognized Indian tribes, representatives of local governments, additional consulting parties with a demonstrated interest in the undertaking and its effects on historic properties, and the public throughout the process (36 CFR 800.2). The ACHP is also invited to participate. The purpose of consultation is to facilitate the lead federal agency's evaluation of an undertaking's effects on historic properties.

The four principal steps for the Section 106 process are:

1. Initiation of the Section 106 process: establishes undertaking (36 CFR 800.3);
2. Identification of historic properties, consisting of those resources within an Area of Potential Effect (APE) that are eligible for inclusion in the NRHP (36 CFR 800.4);
3. Assessment of the effects of the undertaking on historic properties in the APE (36 CFR 800.4(d) (1) and (2) and 36 CFR 800.5); and
4. Resolution of adverse effects (36 CFR 800.6).

Adverse effects on historic properties may be resolved through preparation of a memorandum of agreement or a programmatic agreement developed in consultation between the lead federal agency, the SHPO, federally recognized Indian tribes, and other consulting parties to the Section 106 process.

Consistent with implementing regulations for Section 106 of the NHPA, the Navy has determined that the proposed disposal of property, and subsequent reuse by the City of Concord as the LRA, is an undertaking that has the potential to affect historic properties. Therefore, the following impact analysis focuses on the potential impacts and effects of disposal and reuse of former NWS Concord on cultural resources and historic properties pursuant to both NEPA and Section 106 of the NHPA.

3.6.1.2 Archaeological Resources Protection Act

ARPA, enacted October 31, 1979, amended the Antiquities Act of 1906 (16 U.S.C. 431–433) and set a broad policy that archaeological resources are important to the nation and should be protected, and required special permits before the excavation or removal of archaeological resources from public or tribal lands. The purpose of ARPA was to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites that are on public lands and tribal lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data that were obtained before October 31, 1979.

ARPA prohibits unauthorized archaeological excavation on federal and Indian lands. It establishes standards for permissible excavation, encourages cooperation between federal agencies and private individuals with regard to archaeological resources, and prescribes civil and criminal penalties for unauthorized excavation (Far Western [Far Western Anthropological Research Group, Inc.] and JRP [JRP Historical Consulting Services, Inc.] 2002).

3.6.2 Cultural Setting

The cultural setting of the former NWS Concord was developed through a series of cultural resources investigations, including a Phase I archaeological survey, Phase II archaeological site evaluation, ethnographic study, historic building survey and evaluation, and rural historic landscape study. Results of these cultural resources investigations documented the prehistoric and historic Native American contexts and the historic Euro-American contexts for NWS Concord. These contexts are summarized briefly below and are based on more detailed discussions in the following primary technical studies: *Naval Weapons Station, Seal Beach, Detachment Concord, Integrated Cultural Resources Management Plan for the years 2002-2007, Volume I of II* (Far Western and JRP 2002); *Final Reevaluation of Eligibility for Listing in the National Register of Historic Places: World War II Munitions Depots at Seal Beach, Fallbrook, and Concord, California* (Manley 2003); *Final Report for Concord Inland BRAC Disposal Archaeological Survey, Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California* (Garcia-Herbst and Hale 2008); *Final Historic Building Inventory and Evaluation Update Report, Inland Area, Concord Naval Weapons Station, Contra Costa County, California* (Herbert and Allen 2013); and *Final National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California* (ASM Affiliates, Inc. 2014).

3.6.2.1 Prehistoric Context

The general prehistoric context for NWS Concord is based on a prehistoric cultural chronology for archaeological sites in Contra Costa County that date from the Lower Archaic (10,000 to 6,000 before present [B.P.]); the Initial Middle Archaic (6,000 to 4,500 B.P.), the Terminal Archaic (4,500 to 2,500 B.P.), the Upper Archaic (2,500 to 1,300 B.P.), and the Emergent Period (1,300 to 200 B.P.).

The Lower Archaic period is the oldest prehistoric cultural context identified in Contra Costa County. Two archaeological sites from this period have been recorded in the county, although not at NWS Concord. The artifact assemblages from these sites indicate that a wide variety of animal and plant species were utilized, although large nuts, wild cucumber, and berries (manzanita) were the dominant plant resources utilized at the sites (Far Western and JRP 2002; Garcia-Herbst and Hale 2008).

The Initial Middle Archaic period is represented in Contra Costa County by isolated human burials and one archaeological site in the county, although not at NWS Concord. These sites contained a diverse artifact assemblage comprised of habitation debris, several human burials, residential and resource-processing features, and one of the oldest dated shell bead lots in central California (dating to 4,160 B.P.)

and a unique type of pestle apparently used with a wooden mortar (Far Western and JRP 2002, Garcia-Herbst and Hale 2008). This cultural period is characterized by the emergence of new technologies that reflect increased sedentism, mortuary complexity, and regional trade, with a gradual decrease in overall foraging territories and a narrowing focus on lowland environments.

The Terminal Archaic period is represented in Contra Costa County by a number of archaeological sites in the county, although not at NWS Concord. These sites include buried sites, surface sites, and shell mounds. The artifact assemblages, including lithic, floral, and faunal assemblages, indicate that a wide variety of resources were utilized. Nuts (acorn and pine) and berries (manzanita) appear to be the primary plant resources utilized at sites from this cultural period. Sites in bayshore environmental settings indicate utilization of marine shellfish species, marine fishes, and marine mammals; sites in inland environmental settings indicate utilization of freshwater fish and shellfish and terrestrial mammals (Far Western and JRP 2002; Garcia-Herbst and Hale 2008).

The Upper Archaic Period is represented in Contra Costa County by archaeological sites in the county, although not at NWS Concord. These sites include buried sites and shell mounds characterized by well-developed midden deposits containing human remains and residential features, and indicative of long-term residential villages. Typically located along freshwater streams in bayshore and interior environmental settings, the combined artifact assemblages from these sites indicate that a wide variety of resources were utilized. Acorns and other large nuts and seeds were important food resources, although there was a growing emphasis on small-seeded resources. Faunal food resources reflected either marine or terrestrial species, depending on bayshore or interior site location, although marine shellfish began to appear in increasingly larger amounts at interior valley sites (Far Western and JRP 2002; Garcia-Herbst and Hale 2008). Studies of human burials from this cultural period identified warfare-related trauma that could reflect the emergence of more hierarchical social systems (ASM Affiliates, Inc. 2014).

The Emergent Period is represented in Contra Costa County by archaeological sites in the county, although not at NWS Concord. These sites include surface and buried sites characterized by well-developed midden deposits containing human burials and residential features, including house floors, and represent both habitation sites and task-specific sites. Located in bayshore, interior valley and upland environmental settings, large villages composed of hundreds of people appear to have been located in the delta region of the county, while smaller hamlets composed of one or two extended families were located in some of the smaller valleys. The artifact assemblages, including lithic, floral, and faunal assemblages, indicate that a wide variety of resources were utilized during this time period, with small-seeded plant resources and large mammals becoming a more prominent part of the diet, along with marine shellfish and marine fish that were transported inland in larger quantities (Far Western and JRP 2002; Garcia-Herbst and Hale 2008). This cultural period generally is characterized by continuing technological and adaptive changes that reflect a substantial rise in sedentism and social complexity and the continuation of adaptive and social changes that began in earlier periods until interruption by contact with the Spanish (ASM Affiliates, Inc. 2014).

3.6.2.2 Ethnographic Context

The ethnographic context for former NWS Concord is associated with the Chupcan, a Bay Miwok tribe occupying territory that included former NWS Concord at the time of European contact in 1772 (Far Western and JRP 2002; Garcia-Herbst and Hale 2008). The bayshore marshland and inland valley environmental settings at the former NWS Concord would have been important subsistence environments for the Chupcan, where nuts and seed crops, forbs, bulbs, and roots would have been collected, deer and rabbits would have been hunted in the interior valley and uplands, and elk and pronghorn would have been hunted on the lowland plains along Mt. Diablo Creek and the borders of marshland (Far Western and JRP 2002; Garcia-Herbst and Hale 2008; ASM Affiliates, Inc. 2014).

Spanish mission records suggest that at the time of Spanish contact, the Bay Miwok tribes consisted of the ethnographic Chupcan, Saclan, Tatcan, Volvon (or Bolbon), and Julpun tribes, which were linguistically related (Far Western and JRP 2002; Garcia-Herbst and Hale 2008; ASM Affiliates, Inc., 2014). Initial European contact with the Bay Miwok tribes in the area was in the spring of 1772, when a Spanish expedition passed through Chupcan territory on its way east from San Francisco, then south through the San Ramon Valley and home to its new settlement at Monterey. Some 20 to 30 years later, between 1795 and 1804, the majority of Chupcan had moved to Mission San Francisco or Mission San Jose. Records for Mission San Jose and Mission San Francisco in the 1810s and 1820s indicate that Chupcans married into other Bay Miwok tribes, as well as non-Bay Miwok tribes, including Patwan-speaking tribes from areas further north and Plains Miwok-speaking tribes. When the missions were closed as Indian agricultural communes in 1836, surviving Chupcans and their descendants would have gone to work for Mexican ranch owners throughout the east bay area (Far Western and JRP 2002; Garcia-Herbst and Hale 2008, ASM Affiliates, Inc., 2014).

No present-day Indian person traces his or her ancestry back to the Chupcan people, although the closest living genetic relatives would be the descendants of other Bay Miwok groups who went to missions San Jose, San Francisco, and San Francisco Solano during the mission period (Far Western and JRP 2002; Garcia-Herbst and Hale 2008). However, several present-day Plains Miwok tribes maintain an interest in the general area, including the present-day California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Spring Band of Miwok Indians. Ethnographic information provided by these present-day Miwok tribes has been summarized in studies conducted for NWS Concord (ASM Affiliates, Inc. 2014).

3.6.2.3 Historic Context

The general historic context for NWS Concord is based on a historic cultural chronology for archaeological sites in Contra Costa County that date from the Euro-American Occupation, Exploration, and Initial Settlement Period (1769-1845); the Early American Mining and Farming Period (1846-1880); the Era of Transportation and Industry (1880-1945); and the Military and Recent Past Period (1941-present).

The Euro-American Occupation, Exploration, and Initial Settlement Period began with the Spanish, who first settled California in 1769 but did not explore the vicinity of the region, including what became Contra Costa County, until the 1770s. As indicated above, initial European exploration was in the spring of 1772, and the next exploration by the Spanish was in April of 1776 by Spanish leader Juan Bautista de Anza (Far Western and JRP 2002; Garcia-Herbst and Hale 2008). Permanent Spanish settlement in the vicinity of the former NWS Concord began with the establishment of the mission and presidio of San Francisco in 1776 and Mission San Jose in 1789, and it is possible that land at or near the former NWS Concord was used by Mission San Jose for grazing purposes. The missions were closed in the 1820s, and, by the late 1820s, individuals began to petition for land grants in what is now Contra Costa County. Much of the land that is now the former NWS Concord was included within two large *ranchos* used primarily for livestock grazing, which were granted by the Spanish government after the mission closed: the Monte del Diablo in 1834, and Rancho Los Maganos in 1835 (Far Western and JRP 2002; Garcia-Herbst and Hale 2008; ASM Affiliates, Inc. 2014).

The Early American Mining and Farming Period began with the American takeover of California in 1846 and the discovery of gold in 1849 and the subsequent Gold Rush that combined to dramatically accelerate the pace of settlement. The Army's arsenal at Benicia (established in 1851) and the Navy Station at Mare Island (established in 1854) also influenced the development pattern for much of northern Contra Costa County and helped to establish the Benicia-Martinez area as a major shipping point for goods going to and from inland areas (Far Western and JRP 2002; Garcia-Herbst and Hale 2008). In 1852, Major Robert Allen, who was attached to the Benicia Arsenal, purchased much of the Monte del Diablo *rancho*, and

other settlers claimed land in what is now the former NWS Concord that was in the public domain through the Homestead Act, Swamp and Overflowed Land Act, and other legal devices (Far Western and JRP 2002; Garcia-Herbst and Hale 2008).

As settlers arrived in California during the Gold Rush years, they acquired agricultural land from ranch owners. Open-range grazing lands of the Mexican period of settlement in California were fenced and cultivated, and individual ranches were reduced in size from many thousands of acres to parcels varying from several hundred acres to several thousand acres. Finding wheat farming for export more lucrative per acre than cattle ranching, farmers dry-farmed wheat and transported it to the nearest shipping point, although hay and other livestock forage were also grown on ranches in combination with livestock grazing (ASM Affiliates, Inc., 2014). After the wheat boom of the 1860s and 1870s, farmers shifted to the cultivation of other grains and began to experiment with a wider range of crops. By the end of the 19th century, much of the Diablo Valley had transitioned into a mix of vineyards and orchards, interspersed with the occasional dairy or poultry farm (Far Western and JRP 2002; Garcia-Herbst and Hale 2008; ASM Affiliates, Inc., 2014). By the early 20th century, the western side of the Diablo Valley was subdivided and intensively developed as small irrigated parcels ranging from 5 to 80 acres with cultivated orchards and vegetable gardens, while the eastern side of the Diablo Valley, including land along the foothills or eastern side of the former NWS Concord, continued to produce hay and grain but was increasingly devoted to raising cattle and horses on ranches and dairy farms (ASM Affiliates, Inc. 2014).

The Era of Transportation and Industry occurred between the later 1870s and World War I, with major transportation developments and other improvements in the vicinity of the former NWS Concord. Developments consisted of the completion of two major lines for the Southern Pacific Railroad in the 1870s, construction of short lines associated with the Bay Point & Clayton Railroad and the Sacramento Northern Railroad at the turn of the 20th century, opening roads east from Clayton to reach the mining regions south of Mount Diablo at the turn of the 20th century, improvement to the highway that became SR 4 and other roads in the area to be suitable for automobile traffic, and channelization of Mt. Diablo Creek that was finalized after 1937 with the construction of the Contra Costa Canal through the northern portion of the former NWS Concord (Far Western and JRP 2002; Garcia-Herbst and Hale 2008; Herbert and Allen 2013; ASM Affiliates, Inc. 2014).

The Military and Recent Past Period began with the onset of World War II in Europe, when the Navy began looking for a Bay Area site for a new and larger ammunition depot to serve Navy stations in northern California as early as 1940. In 1942, the Navy acquired 640 acres of land for NWS Concord that was called the Tidal Area, and in 1944 and 1945, the Navy expanded the facility by acquiring more than 5,000 acres for NWS Concord and constructed the bulk of its munitions facilities, including barricade sidings, magazines, storehouses, and auxiliary buildings, as well as a small air facility (Far Western and JRP 2002; Garcia-Herbst and Hale 2008; Herbert and Allen 2013; ASM Affiliates, Inc.,;2014). By the close of World War II, NWS Concord had become the principal ammunition-loading port and storage point for ammunition and high explosives on the West Coast (Herbert and Allen 2013; ASM Affiliates, Inc. 2014).

The importance of the installation's role in supplying the Pacific Fleet throughout World War II assured it a continued strategic place in the years following the war, and it remained a powerful and fully functioning station as the U.S. entered into the Cold War period. However, as a direct result of the end of the Cold War in 1989 and the subsequent cessation of the military's strong demands for personnel and materiel, the station saw a reduction in workforce and volumes of ordnance shipped and stored. In 1998, NWS Concord became a detachment of NWS Seal Beach in Orange County, California, and by 1999 a minimal contingent of military personnel was stationed at NWS Concord. In 1999, the Navy formally placed the facility into a reduced operational status. In November 2005, NWS Concord was recommended

for the partial closure and realignment that has resulted in the current proposed undertaking (Herbert and Allen 2013).

3.6.3 Existing Cultural Resources on the Former NWS Concord

This section describes the existing cultural resources identified within the APE for the proposed action at the former NWS Concord. The boundary of the APE is the same as the boundary of the property that will be disposed, delineated as the former NWS Concord on Figure 2-1. Archaeological and architectural resources are discussed in sections 3.6.3.1 and 3.6.3.2, respectively. Those resources that have been determined historic properties are discussed in Section 3.6.4.

3.6.3.1 Archaeological Resources

In 2008, a Phase I archaeological survey of the APE was conducted by ASM Affiliates, Inc. The purpose of the 2008 Phase I archaeological survey was to document archaeological resources within the APE for the proposed undertaking. The 2008 Phase I report presented a discussion of previously recorded archaeological resources in the APE as well as the results of the 2008 archaeological survey (Garcia-Herbst and Hale 2008).

The 2008 Phase I archaeological survey of the APE confirmed the presence of five previously recorded archaeological sites and identified 17 newly identified archaeological sites and four isolated artifact finds (see Table 3.6-1) (Garcia-Herbst and Hale 2008). As indicated in Table 3.6-1, three of the 22 identified archaeological sites were prehistoric and 19 were historic. Three of the isolated artifact finds were prehistoric; one was historic.

In 2013, ASM Affiliates, Inc., conducted NRHP-eligibility evaluations of 21 of the 22 archaeological sites (NRHP-eligibility evaluations were not conducted for one historic archaeological site, Site CCO-792H). Four of the 21 archaeological sites (prehistoric sites CA-CCO-680, P-07-00861, and CA-CCO-786 and historic site CA-CCO-791H) underwent Phase II archaeological investigations to determine their NRHP-eligibility. Eighteen historic sites (CA-CCO-791H and 17 additional historic archaeological sites) were evaluated collectively as a potential Rural Historic Landscape (RHL) to determine their NRHP-eligibility (ASM Affiliates, Inc. 2014).

As a result of NRHP-eligibility evaluations, two of the four archaeological sites (CA-CCO-680 and P-07-00861) were recommended NRHP eligible (ASM Affiliates, Inc. 2014) (see Section 3.6.4). The other two archaeological sites (CA-CCO-786 and CA-CCO-791H) were recommended as not NRHP-eligible. Results of the RHL study indicated that the remaining 19 historic archaeological sites, including CA-CCO-791H, were recommended not NRHP eligible individually or as an element of an RHL (ASM Affiliates, Inc. 2014).

The Navy consulted with the California SHPO regarding the results of the 2013 NRHP-eligibility evaluations of the 21 archaeological resources in the APE for the proposed undertaking and with 11 other consulting parties (the City of Concord, the EBRPD, the Contra Costa County Fire Protection District, the California Valley Miwok Tribe, the Ione Band of Miwok Indians, the Shingle Springs Band of Miwok Indians, the Trina Marine Ruano Family, the Concord Historical Society, Save Mt. Diablo, the U.S. Bureau of Reclamation, and the Contra Costa Water District (see Appendix A). On January 23, 2014, the California SHPO concurred with the Navy's determination that archaeological sites CA-CCO-680 and P-07-00861 are NRHP-eligible and that the remaining 19 archaeological resources are not eligible for listing in the NRHP (Roland-Nawi 2014). The Concord Historical Society and the EBRPD concurred with the NRHP-eligibility conclusions for the 21 archaeological resources (see Appendix A). None of the 10 other consulting parties had comments on the NRHP-eligibility conclusions for the 21 archaeological resources.

Table 3.6-1 Archaeological Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Site Number	Description	Archaeological Investigations	NRHP-Eligibility Determination
CA-CCO-680 (P-07-00003)	Prehistoric archaeological site consisting of surface and subsurface artifacts and features, including human remains. May be associated with the Maltby Site (CA-CCO-250).	Phase I archaeological investigations by Busby et al. 1996 and Garcia-Herbst and Hale 2008; Phase II archaeological evaluation by ASM Affiliates, Inc. 2014	NRHP eligible
P-07-00860	Historic archaeological site consisting of a stone cistern and including a windmill, pond, and surface glass scatter	Phase I archaeological investigations by Self et al. 1993, JRP 1998, and Garcia-Herbst and Hale 2008; recorded by Keibel 2001; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
P-07-00485	Historic archaeological site consisting of a corral	Phase I archaeological investigations by Busby et al. 1996 and Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
P-07-02683	Historic mine shaft with nearby windmill	Phase I archaeological investigations by JRP 1998 and Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc., 2014	Not NRHP eligible individually or as an element of an RHL
P-07-00861	Prehistoric archaeological site consisting of a bedrock milling facility, including two bedrock milling features and one cupule rock art boulder	Recorded by Keibel 2001; Phase I archaeological investigations by Garcia-Herbst and Hale 2008; Phase II archaeological evaluation by ASM Affiliates, Inc., 2014	NRHP eligible
CCO-777H	Historic archaeological site consisting of remains of a residence, associated outbuildings and hardscaping, and orchards	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc., 2014	Not NRHP eligible individually or as an element of an RHL
CCO-778H	Historic archaeological site consisting of a well	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-779H	Historic archaeological site consisting of remains of a residence, concrete pads, water trough, and culvert	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL

Table 3.6-1 Archaeological Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Site Number	Description	Archaeological Investigations	NRHP-Eligibility Determination
CCO-780H	Historic archaeological site consisting of remains of a residence, associated outbuildings, a well, and decorative landscaping	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-781H	Historic archaeological site consisting of remains of a water facility, including foundations, a water tank, windmill, earthen dam, and a walnut orchard	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-782H	Historic archaeological site consisting of remains of a concrete wall and a water facility	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-783H	Historic archaeological site consisting of remains of a concrete wall and a water facility	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-784H	Historic archaeological site consisting of remains of a residence, including foundations, surface artifact scatters, and orchard remnants	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-785H	Historic archaeological site consisting of remains of a residence/ranch, including foundations, a well cap, surface artifact scatters, and decorative landscaping	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-786	Prehistoric archaeological site, consisting of surface ground and flaked-stone artifacts, including a millingstone and handstones	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; Phase II archaeological evaluation by ASM Affiliates, Inc. 2014	Not NRHP eligible
CCO-787H	Historic archaeological site consisting of remains of a complex of non-residential structures that predate railroad and canal	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL

Table 3.6-1 Archaeological Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Site Number	Description	Archaeological Investigations	NRHP-Eligibility Determination
CCO-788H	Historic/modern archaeological site consisting of an outhouse, pumphouse, earthen pond, light surface artifact scatter, and modern sprinkler system	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-789H	Historic archaeological site consisting of remains of an industrial structure	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-791H	Historic archaeological site consisting of the remains of a water facility, corral, trees, and a dense surface artifact scatter	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study and Phase II archaeological evaluation by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-792H	Historic archaeological site consisting of a surface scatter of artifacts on the margin of an old dump that extends out of the APE and an old corral facility	Phase I archaeological investigations by Garcia-Herbst and Hale 2008	Not NRHP eligible
CCO-793H	Historic archaeological site consisting of a water trough, cobble foundation pillars, and a surface glass artifact scatter	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
CCO-794H	Historic archaeological site consisting of a quarry	Phase I archaeological investigations by Garcia-Herbst and Hale 2008; RHL Study by ASM Affiliates, Inc. 2014	Not NRHP eligible individually or as an element of an RHL
AI-1	Prehistoric isolated artifact consisting of a basalt flake	Phase I archaeological investigations by Garcia-Herbst and Hale 2008	Not NRHP eligible
AI-2	Historic isolated find consisting of an axe head	Phase I archaeological investigations by Garcia-Herbst and Hale 2008	Not NRHP eligible
AI-3	Prehistoric isolated artifact consisting of a basalt flake	Phase I archaeological investigations by Garcia-Herbst and Hale 2008	Not NRHP eligible
AI-4	Prehistoric isolated artifact consisting of a quartz biface	Phase I archaeological investigations by Garcia-Herbst and Hale 2008	Not NRHP eligible

Source: Garcia-Herbst and Hale 2008; ASM Affiliates, Inc., 2014; Roland-Nawi 2014.

3.6.3.2 Architectural Resources

In 2013, the Navy updated the results of previously conducted historic building inventories and evaluations for architectural or built resources in the APE at former NWS Concord (Herbert and Allen 2013). The purpose of the 2013 update, *Historic Building Inventory and Evaluation Update Report*, was to revisit buildings and structures in the APE for the proposed undertaking that were surveyed in prior cultural resources studies for former NWS Concord and assess whether any of them now meet the criteria for listing in the NRHP. The 2013 *Historic Building Inventory and Evaluation Update Report* presented a discussion of previously recorded architectural and built resources in the APE as well as the results of the 2013 update (Herbert and Allen 2013).

Previously conducted inventories and evaluations of the historic buildings and structures at NWS Concord were conducted in the 1990s and included both the Inland and Tidal areas. In 1993, William Self Associates inventoried and evaluated a total of 506 World War II-era building and structures at NWS Concord. In 1998, JRP inventoried and evaluated 375 Cold War-era buildings and structures and several World War II-era buildings and structures at NWS Concord.

Of the 506 World War II-era buildings and structures inventoried and evaluated by William Self Associates, one (the Port Chicago National Memorial located in the Tidal Area of NWS Concord) appeared eligible for listing in the NRHP. None of the 375 Cold War- or World War II-era buildings or structures inventoried and evaluated by JRP was found eligible for listing in the NRHP. According to the 2002-2007 Integrated Cultural Resources Management Plan for NWS Concord, the California SHPO concurred with the findings of both the 1993 William Self Associates report and the 1998 JRP report (Far Western and JRP 2002; Herbert and Allen 2013).

Subsequent to the 1993 and 1998 inventories and evaluations, additional information was prepared for architectural or built resources at NWS Concord. In 2001, John A. Keibel of the Concord Historical Society prepared a DPR 523 form evaluating the historic cistern (P-07-00860), which concluded that the structure appeared eligible for inclusion in the NRHP (Herbert and Allen 2013). In 2003, William R. Manley conducted a study of three World War II-era munitions depots in California, including NWS Concord, for the Navy. Conclusions of this study concurred that the World War II-era architectural or built resources at NWS Concord were not eligible for listing in the NRHP (Manley 2003; Herbert and Allen 2013).

In addition to the results of previous inventories and evaluations, the Contra Costa Canal (P-07-002695), including its subsidiary, the Clayton Canal, is a previously recorded built resource traversing the APE that was previously determined eligible for listing in the NRHP by consensus with the California SHPO on March 9, 2005 (Ostrowski 2013; Garcia-Herbst and Hale 2008). While portions of the Contra Costa Canal and Clayton Canal traverse the APE for the proposed undertaking, they are built resources owned by the U.S. Bureau of Reclamation and operated by the CCWD. Although the canals are not owned by the Navy or included in the proposed property disposal action, updated information for the NRHP-eligibility of bridges and culverts associated with the Contra Costa Canal was included in the 2013 *Historic Building Inventory and Evaluation Update Report* for the proposed undertaking. The updated information addressed eight Navy-owned bridges along the canal and the remaining bridges and culverts that appear to be owned and operated by the U.S. Bureau of Reclamation and CCWD (Ostrowski 2013; Herbert and Allen 2013).

The 2013 *update* revisited a total of 422 architectural or built resources in the APE for the proposed undertaking. These 422 architectural or built resources in the APE included World War II-era buildings or structures, Cold War-era buildings or structures, the stone cistern, and bridges or culverts for the Contra Costa Canal (including its subsidiary, the Clayton Canal). Results of the *2013 Historic Building Inventory*

and Evaluation Update Report confirmed that none of the 422 building or structures appeared eligible for listing in the NRHP (see Table 3.6-2) (Herbert and Allen 2013).

On January 30, 2013, the Navy consulted with the California SHPO regarding the results of the *2013 Historic Building Inventory and Evaluation Update Repor*t and with 11 other consulting parties (the City of Concord, the EBRPD, the Contra Costa County Fire Protection District, the California Valley Miwok Tribe, the Ione Band of Miwok Indians, the Shingle Springs Band of Miwok Indians, the Trina Marine Ruano Family, the Concord Historical Society, Save Mt. Diablo, the U.S. Bureau of Reclamation, and the Contra Costa Water District (see Appendix A). On February 14, 2013, the California SHPO concurred with the Navy's determination that none of the 422 architectural or built resources in the APE for the proposed undertaking that were included in the 2013 *Historic Building Inventory and Evaluation Update Repo*rt are eligible for listing in the NRHP (Roland-Nawi 2013). The Concord Historical Society, the City of Concord, and the U.S. Bureau of Reclamation concurred with the conclusions of the 2013 *Historic Building Inventory and Evaluation Update Report* (see Appendix A). None of the eight other consulting parties had comments on the NRHP-eligibility conclusions for the 422 architectural or built resources.

3.6.4 Historic Properties on the Former NWS Concord

As a result of NRHP-eligibility evaluations conducted for the proposed action at former NWS Concord, two archaeological sites (CA-CCO-680 and P-07-00861, as described in Section 3.6.3.1) were recommended NRHP eligible. Site CA-CCO-680 was recommended NRHP eligible under Criterion D for its potential to yield additional information important in prehistory. Site P-07-00861 was recommended NRHP eligible under Criterion A for its association with events significant to the broad patterns of prehistory and under Criterion D for its potential to yield additional information important in prehistory. As discussed in Section 3.6.3.1, based on the results of the NRHP-eligibility evaluations, none of the other archaeological resources within the APE for the proposed action at former NWS Concord were recommended NRHP eligible (ASM Affiliates, Inc. 2014).

The Navy submitted the NRHP-eligibility recommendations for the 22 archaeological resources to the California SHPO for review and comment and on January 23, 2014, the California SHPO concurred that archaeological site CA-CCO-680 is eligible for listing in the NRHP under Criterion D and that archaeological site P-07-00861 is eligible for listing in the NRHP under Criteria A and D (Roland-Nawi 2014).

Site CA-CCO-680 is NRHP eligible under Criterion D for its potential to provide additional information about prehistoric burial and/or ceremonial practices. This information would be useful in determining the chronological and cultural affiliation of the site and its place with regional temporal and adaptive contexts. It is also possible that the site could provide information about the social organization of individuals interred at the site. Additionally, the site carries religious and cultural significance with regard to contemporary ethnographic perspectives about death and burial. Site CA-CCO-680 also has the potential to provide additional information about coastal-inland adaptation patterns, obsidian conveyance/exchange networks, settlement systems, subsistence patterns, and other related issues (ASM Affiliates, Inc. 2014).

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
61-71 (11 structures)	High Explosives Magazine (Alpha Area)	1959	Cold War-era at-grade magazine consisting of a reinforced concrete vault with an earth fill cover and designed for rail access	Not NRHP eligible
72-78 (seven structures)	High Explosives Magazine (Alpha Area)	1959	Cold War-era platform magazine consisting of a reinforced concrete arched vault with an earth fill cover and designed for truck access	Not NRHP eligible
79	Guardhouse/Reaction Force Building (Alpha Area)	1959	Cold War-era concrete block building with a gravel-covered pre-cast concrete slab roof, shallow shed-type slope, and earthen barricades. Modified in 1977 with a sleeping area, additional concrete for walls, and doors and gun ports	Not NRHP eligible
81	Weapons Maintenance Building (Building 81 Complex)	1959	Cold War-era rectangular building with concrete foundation and two poured-in-place concrete retaining walls covered with earth fill	Not NRHP eligible
82	Paint Shop (Building 81 Complex)	1959	Cold War-era reinforced concrete vault covered with earth fill	Not NRHP eligible
83	Lunch, Locker, and Boiler Room (Building 81 Complex)	1959	Cold War-era rectangular concrete block structure with concrete slab foundation and pre-cast concrete slab, shallow-sloped roof covered with gravel	Not NRHP eligible
84	Container Shed (Building 81 Complex)	1959	Cold War-era concrete block structure on a concrete pad foundation with a pre-cast concrete slab shed roof	Not NRHP eligible
85	Pump House (Building 81 Complex)	1959	Cold War-era concrete block structure on a concrete pad foundation with a pre-cast concrete slab shed roof	Not NRHP eligible
86	Emergency Generator Building (Building 81 Complex)	1959	Cold War-era concrete block structure on a concrete pad foundation with a pre-cast concrete slab shed roof	Not NRHP eligible
87	Inert Storage and Processing Building (Central Building of Building 87 Complex)	1959	Cold War-era rectangular concrete building, including concrete foundation, cast-in-place columns and pre-cast concrete panels with a steel frame, built-up, shallow gabled roof; a parachute tower sheathed in insulated metal panels rises through the roof at northwest corner	Not NRHP eligible
88	Vehicle Storage Shed (Building 87 Complex)	1959	Cold War-era concrete block structure on concrete pad foundation with pre-cast concrete slab roof	Not NRHP eligible
89	Pumphouse (Building 87 Complex)	1959	Cold War-era concrete block structure on concrete pad foundation with pre-cast concrete slab roof	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
93	Guidance Checkout Facility (Building 93 Complex)	1960	Cold War-era long, rectangular, reinforced concrete, tilt-up slab structure with a steel frame, topped by a shallow pitched side-gable roof, containing eight guidance checkout or test cells and accessible by truck or rail. Additional cells were added in 1980, 1982, 1984, and 1992.	Not NRHP eligible
94	Ready Issue Building (Building 93 Complex)	1960	Cold War-era concrete tilt-up structure	Not NRHP eligible
96	Lunch, Locker, and Boiler Building (Building 93 Complex)	1960	Cold War-era rectangular reinforced concrete block building with a flat roof	Not NRHP eligible
97	Warhead Assembly, Fueling, and Igniter Test Building (Building 97 Complex)	1960	Cold War-era irregularly shaped, reinforced poured-in-place concrete and steel frame structure	Not NRHP eligible
98	Boiler and Sentry House (Building 97 Complex)	1960	Cold War-era rectangular reinforced concrete block building on a concrete slab roof with a flat, gravel-covered roof	Not NRHP eligible
112	Field Toilet (Building IA50 Complex)	1954	Cold War-era concrete block toilet building with a shed roof covered with corrugated cement asbestos	Not NRHP eligible
113	Operational Storage Shed (Building IA50 Complex)	1946	World War II-era small wood frame equipment shelter with a shed roof and horizontal grooved siding. Constructed elsewhere in 1946 and subsequently relocated to the Building IA50 Complex	Not NRHP eligible
114	Fire Station Outbuilding (Security and Safety Buildings)	1946	Cold War-era wood frame building with horizontal wood siding on a timber foundation and with a shed roof covered with composition roll sheeting	Not NRHP eligible
116	Public Works Shop (Public Works)	1946	Cold War-era wood frame structure on a heavy timber foundation with plain plywood siding and a gable roof, covered in composition roll sheeting, extended to form a covered patio	Not NRHP eligible
131	Water Tank (Utilities and Services Building)	1960	Cold War-era metal aboveground water tank with a 225,000-gallon capacity	Not NRHP eligible
132	Water Tank (Utilities and Services Building)	1960	Cold War-era metal aboveground water tank with a 225,000-gallon capacity	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
150	Public Works Maintenance Storage (Public Works)	1963	Cold War-era pre-engineered metal shed on a concrete slab foundation	Not NRHP eligible
151	Guided Missile Facility (Building 97 Complex)	1963	Cold War-era pre-engineered building with metal siding constructed as an addition to the west side of Building 97	Not NRHP eligible
152	Gymnasium (Morale, Welfare, and Recreation)	1966	Cold War-era composite structure consisting of a large multi-purpose hardwood court area and smaller rooms. The court area is a steel-framed structure topped by a shallow built-up side-gabled roof with 20-foot-tall windows formed of pre-cast concrete panels topped by bands of metal industrial sash windows. Additions for smaller rooms are concrete block with corrugated metal roofs.	Not NRHP eligible
159	Enlisted Men's Club/Recreation and Enlisted Men's Open Mess (Morale, Welfare, and Recreation)	1966	Cold War-era building consisting of pre-cast concrete panels, steel enamel panels, and concrete block construction with a built-up gravel-covered roof	Not NRHP eligible
161	Parade Grounds (Monuments)	1945	World War II-era parade ground located in the central administrative area. Includes a flagpole and ceremonial area at its western end and a gazebo or bandstand in the northeastern corner.	Not NRHP eligible
168	Computer/Analysis Lab (WQEC Complex)	1967	Cold War-era two-story building consisting of a concrete block first story and a metal framed, pre-fabricated metal-panel-sheathed second story with a flat built-up roof hidden by an overhang created by asbestos cement board panels hung vertically from the roof edge, creating a box-like awning	Not NRHP eligible
178	Service Station (Utilities and Services Building)	1969	Cold War-era steel-framed metal-sided building on a concrete foundation with a metal shed roof overhang on all sides of the building	Not NRHP eligible
185	Barracks/Administrative Building (Old BEQ)	1972	Cold War-era single-story concrete block building	Not NRHP eligible
186	Company Barracks (Old BEQ)	1972	Cold War-era single-story concrete block building	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
187	BEQ (Old BEQ)	1972	Cold War-era two-story concrete block building	Not NRHP eligible
193	Auto Hobby Shop (Morale, Welfare, and Recreation)	1971	Cold War-era pre-engineered metal-sided building with a shallow-pitch side-gabled metal roof	Not NRHP eligible
252	Warehouse (Morale, Welfare, and Recreation)	1972	Cold War-era pre-engineered end-gabled metal structure	Not NRHP eligible
253	Warehouse (Morale Welfare, and Recreation)	1972	Cold War-era pre-engineered end-gabled metal structure	Not NRHP eligible
254	Storage (Morale, Welfare, and Recreation)	1972	Cold War-era pre-engineered end-gabled metal structure	Not NRHP eligible
256	Hobby Shop (Morale, Welfare, and Recreation)	1973	Cold War-era pre-engineered end-gabled metal structure	Not NRHP eligible
261	Guided Missile Laboratory (WQEC Complex)	1970	Cold War-era trailer	Not NRHP eligible
263	Ammunition Rework Facility (Breakdown Cell area)	1974	Cold War-era rectangular concrete (poured-in-place and block) and wood frame and plywood building topped with a simple shed roof	Not NRHP eligible
264	Special Service Center (Morale, Welfare, and Recreation)	1974	Cold War-era pre-engineered end-gabled metal structure	Not NRHP eligible
265	Special Service Center (Morale, Welfare, and Recreation)	1974	Cold War-era rectangular concrete block structure with a shed roof covered in corrugated metal	Not NRHP eligible
270	Administrative Storage (WQEC Complex)	1973	Cold War-era trailer	Not NRHP eligible
271	Storage (Old BEQ)	1976	Cold War-era concrete block, flat-roofed building	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
275	Sentry House (Security and Safety Buildings)	1976	Cold War-era flat-roofed building	Not NRHP eligible
276	Guided Missile Laboratory (WQEC Complex)	1973	Cold War-era trailer	Not NRHP eligible
277	Administrative Storage (WQEC Complex)	1973	Cold War-era trailer	Not NRHP eligible
282	Computer/Analysis Laboratory (WQEC Complex)	1976	Cold War-era trailer	Not NRHP eligible
291	Missile Magazine West (Bunker City)	1980	Cold War-era earth-covered reinforced concrete vault accessible by truck	Not NRHP eligible
292	Missile Magazine East (Bunker City)	1980	Cold War-era earth-covered reinforced concrete vault accessible by truck	Not NRHP eligible
293	Administrative Storage (WQEC Complex)	1980	Cold War-era pre-engineered end-gabled metal building sheathed in metal panels (walls and roof)	Not NRHP eligible
294	Administrative Storage (WQEC Complex)	1980	Cold War-era pre-engineered end-gabled metal building sheathed in metal panels (walls and roof)	Not NRHP eligible
295	(WQEC Complex)	unidentified	Cold War-era metal storage container	Not NRHP eligible
296	Materials Laboratory (WQEC Complex)	1971	Cold War-era metal storage container	Not NRHP eligible
297	Materials Laboratory (WQEC Complex)	1971	Cold War-era metal storage container	Not NRHP eligible
395	Administration (New BEQ)	1981	Cold War-era concrete block multi-story building covered with cement plaster stucco on concrete slab foundation with cantilevered projections and upper floors that jut abruptly out over lower floors	Not NRHP eligible
396	Lounge (New BEQ)	1981	Cold War-era concrete block multi-story building covered with cement plaster stucco on concrete slab foundation with cantilevered projections and upper floors that jut abruptly out over lower floors	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
397	BEQ (New BEQ)	1981	Cold War-era concrete block multi-story building covered with cement plaster stucco on concrete slab foundation with cantilevered projections and upper floors that jut abruptly out over lower floors	Not NRHP eligible
398	Dining Facility and BEQ (New BEQ) 5	1981	Cold War-era concrete block multi-story building covered with cement plaster stucco on concrete slab foundation with cantilevered projections and upper floors that jut abruptly out over lower floors	Not NRHP eligible
405	Utility Shed (WQEC Complex)	unknown	Cold War-era pre-engineered end-gabled metal building sheathed in metal panels (walls and roof)	Not NRHP eligible
406	RDT&E Storage (WQEC Complex)	1980	Cold War-era pre-engineered end-gabled metal building sheathed in metal panels (walls and roof)	Not NRHP eligible
409	Chapel (Morale, Welfare, and Recreation)	1980	Cold War-era building with vertical-groove wood siding and a side-gabled roof covered in composition shingles, recesses along the south and west walls, stained glass windows, and a pre-engineered Styrofoam steeple that straddles the ridge line of the roof near the western end of the building	Not NRHP eligible
416	Fire Station Outbuilding (Security and Safety Buildings)	1946	Cold War-era wood frame building with horizontal wood siding on timber foundation with shed roof covered with composition roll sheeting	Not NRHP eligible
420	Storage Shed (Building 93 Complex)	c. 1990	Cold War-era metal shed	Not NRHP eligible
421	Storage Shed (Building 93 Complex)	c. 1990	Cold War-era metal shed	Not NRHP eligible
422	Ordnance Operations (Bunker City)	1983	Cold War-era small pre-engineered metal-sided building with a shallow metal-covered gabled roof	Not NRHP eligible
423	Ordnance Operations (Public Works)	1984	Cold War-era pre-engineered metal building with a shallow side-gabled metal roof topped with three ridge vents	Not NRHP eligible
428	Hazardous Waste Storage (Bunker City)	1987	Cold War-era small pre-engineered metal-sided building with a shed roof that is open on the west side	Not NRHP eligible
429	Storage Structure (Building 93 Complex)	1987	Cold War-era pre-engineered metal building topped with a shed-roof form and open on the east side	Not NRHP eligible
430	Hazardous Waste Storage (WQEC Complex)	1987	Cold War-era pre-engineered end-gabled metal building sheathed in metal panels (walls and roof)	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
435	Racquetball Courts Addition (Morale, Welfare, and Recreation)	1989	Cold War-era two-story pre-engineered metal building with a shallow-pitch front-gable roof	Not NRHP eligible
441	Magazine (Bunker City)	c. 1980	Cold War-era structure	Not NRHP eligible
442	Magazine (Bunker City)	c. 1980	Cold War-era structure	Not NRHP eligible
BP1-5 (five structures)	Black Powder Magazines	1945	World War II-era cast-in-place concrete magazine with earth cover and earth berm blast-protection opposite door	Not NRHP eligible
C3	Railroad Barricade (Railroad)	1945	World War II-era earth berm that is approximately 0.5 mile long, 50 feet wide at the base, and about 13 to 15 feet high at the center, constructed to protect a series of railroad sidings	Not NRHP eligible
C3A	Railroad Barricade (Railroad)	1945	World War II-era earth berm that is approximately 0.5 mile long, 50 feet wide at the base, and about 13 to 15 feet high at the center, constructed to protect a series of railroad sidings	Not NRHP eligible
CS1-CS16 (16 structures)	Telephone Sheds	1945	World War II-era one-story, square concrete-block open structures on concrete slabs with three sides and wood frame shed roofs that have been removed	Not NRHP eligible
3FT1-3FT10 (10 structures)	Fuse and Detonator Magazines	1945	World War II-era cast-in-place concrete magazines with earth cover and earth berm blast-protection opposite the door	Not NRHP eligible
E98	Safety and Training Building	1945	World War II-era two-story wood structure with a flat roof, panel siding, and cantilever wood balcony on the west side	Not NRHP eligible
FD11-FD13 (three structures)	Fuse and Detonator Magazine (3FT Area)	1953	Cold War-era earth-covered reinforced concrete arched vault	Not NRHP eligible
FD14	Small Fuse and Detonator Magazine (Alpha Area)	1954	Cold War-era reinforced concrete box vault covered with earth	Not NRHP eligible
GA1-GA93 (93 structures)	Magazines	1945	World War II-era cast-in-place concrete earth-covered structures with vents and glass block transom panels for light	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
GA94-GA116 (23 structures)	Smokeless Powder Magazines (Bunker City)	1953	Cold War-era earth-covered reinforced concrete vaults accessible by truck or rail	Not NRHP eligible
HE1-HE60 (60 structures)	High Explosive Magazines	1945	World War II-era cast-in-place concrete earth-covered structures with metal vents	Not NRHP eligible
IA1	Administration Building	1945	World War II-era one story T-shaped cast-in-place concrete enclosed structure with some two-story elements, a flat built-up roof with minimal overhangs, an addition on the eastern side, the Navy emblem above the main entrance, and an eagle on the rear façade	Not NRHP eligible
IA4	Substation (Utilities and Services Building)	1988	Cold War-era corrugated asbestos cement panels with shed-style roof	Not NRHP eligible
IA5	Warehouse/Supply Department	1945	World War II-era one-story rectangular cast-in-place concrete enclosure structure on a raised concrete slab foundation with loading platforms and a corrugated gable roof with no overhang and several round metal vents.	Not NRHP eligible
IA6	Boiler House	1945	World War II-era one-story rectangular cast-in-place concrete enclosure structure on a concrete slab foundation with a gable corrugated roof with minimal overhang and large vent stacks	Not NRHP eligible
IA7	Inland Firehouse	1945	World War II-era one- and two-story irregularly shaped cast-in-place concrete enclosed structure on a concrete slab foundation with a flat, built-up roof and covered porches on the east and south sides (the south porch is filled in with a wood frame and cement plaster addition)	Not NRHP eligible
IA8	Personnel Offices	1945	World War II-era one-story irregularly shaped cast-in-place concrete enclosed structure on a concrete slab foundation with a porched entry and flat built-up roof with no overhangs	Not NRHP eligible
IA10	Barracks	1945	World War II-era two- and three-story cast-in-place concrete H-shaped structure with exterior stairways and a flat built-up roof with minimal overhang	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
IA11	Offices/Storage	1945	World War II-era rectangular one-story wood-frame enclosed structure on raised wood floor, with low built-up gable roof with short eaves and no end overhangs, metal awnings, and an addition at the east end	Not NRHP eligible
IA12	Heavy Equipment Repair Shop	1945	World War II-era rectangular one-story cast-in-place concrete enclosed structure with a high center bay, a gable and shed corrugated roof with large clerestory at center bay and no overhang, and additions on the east and west sides	Not NRHP eligible
IA13 (two structures)	Water Distribution Facility	1945	World War II-era rectangular one-story cast-in-place concrete enclosed structures with concrete slab foundations and flat built-up roofs with small overhang on all sides.	Not NRHP eligible
IA15	Public Works Shop	1945	World War II-era rectangular one-story cast-in-place concrete enclosed structure with overhangs at loading docks on east and west side and flat built-up roof with overhangs at dock areas only	Not NRHP eligible
IA16	Public Works Shop	1945	World War II-era rectangular one-story cast-in-place concrete enclosed structure with overhangs at loading docks on east and west side and flat built-up roof with overhangs at dock areas only	Not NRHP eligible
IA17	Service Station	1945	World War II-era single-story cast-in-place concrete structure with slab foundation, flat built-up roof, and a post-supported drive-through on one side	Not NRHP eligible
IA18, A-D (one structure)	Base Hospital	1945	World War II-era one-story, rambling, multi-winged enclosed structure. Building IA18 is constructed of cast-in-place concrete with a flat built-up roof. Wings of Building IA18 (IA18A-D) are one-story wood-framed structures with flat built-up roofs.	Not NRHP eligible
IA19	Boiler House	1945	World War II-era square one-story wood-frame enclosed structure on a concrete slab foundation, with shed-style built-up roof and small overhang on front and back	Not NRHP eligible
IA20	Materials Laboratory (WQEC Complex)	1947	Cold War-era one-story building built in 1947 with a side-gabled concrete block element built in 1951 and an adjoining flat-roofed bay built in 1958 and a taller flat-roofed bay sheathed in flat metal panels added in 1964. All roofs are covered in corrugated metal panels, and the entire building sits on concrete slab foundations.	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
IA21	Computer Analysis Laboratory (WQEC Complex)	1953	Cold War-era square one-story poured-in-place concrete building with a basement and a shallow-hipped roof	Not NRHP eligible
IA21A	Physical/Non-Destructive Testing (WQEC Complex)	1953	Cold War-era addition to building IA21 that is 3.5 times its size, designed to house various physical and non-destructive testing functions, consisting of porcelain enamel panels topped by a shallow gabled roof with an overhang, created by asbestos cement board panels hung vertically from the roof edge, creating a box-like awning	Not NRHP eligible
IA22	Evaluation Library	1945	World War II-era irregularly shaped one-story cast-in-place concrete building on a concrete slab foundation with corrugated gable roof and multiple additions, including one connecting Building IA22 with Building IA21	Not NRHP eligible
IA23	Ammunition/Explosives (WQEC Complex)	1947	Cold War-era wood-frame building with unpainted vertical-grooved siding and a shed roof	Not NRHP eligible
IA24, A, B (3 structures)	Battery Charging Building	1945	Building IA24 is a World War II-era irregularly shaped one-story cast-in-place concrete building on a slab foundation with a flat built-up roof with no overhangs. Buildings IA24A and IA24B appear to be contemporaneous separate rectangular concrete structures with shed roofs that are open on one side	Not NRHP eligible
IA25	Ammunitions Rework Building	1945/1993	The original World War II-era structure (a rectangular one-story wood-framed enclosed structure on concrete piers with a covered wood loading dock, built-up gable roof with large metal vents, and side overhangs, surrounded by an earthen, reinforced bunker) has been replaced by a modern pre-engineered building.	Not NRHP eligible
IA27	Car Blocking Shop/Storage	1945	World War II-era rectangular one-story wood-framed enclosed structure with a raised concrete floor, low-slope gable built-up roof with a 6- to 8-foot overhang above the railroad loading area only, and an attached wood awning on the west side that may have been added after initial construction	Not NRHP eligible
IA36	Utility Building (WQEC Complex)	1946	Cold War-era end-gabled wood-frame building with corrugated asbestos cement panels covering the sides and roof	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
IA37	Public Works Shop (Public Works)	1947	Cold War-era Quonset hut	Not NRHP eligible
IA38	Warehouse (Public Works)	1947	Cold War-era Quonset hut	Not NRHP eligible
IA43	Storage (Public Works)	1951	Cold War-era Quonset hut	Not NRHP eligible
IA45	Pumphouse (Former Airport Area)	1954	Cold War-era small concrete block pump house with a flat built-up roof	Not NRHP eligible
IA46	Storage (Public Works)	1952	Cold War-era wood-frame structure with an enclosed portion sheathed in horizontal siding and an open-sided garage portion that comprises approximately two-thirds of the building	Not NRHP eligible
IA48	Storage (Public Works)	1952	Cold War-era wood-frame structure with a stepped shed roof and an open-sided garage portion that comprises approximately one-quarter of the building	Not NRHP eligible
IA49	Maintenance/Storage (Public Works)	1952	Cold War-era wood-frame structure sheathed in horizontal wood siding on the long elevations and shingles on the short elevations, a shed roof, and numerous sliding or overhead doors	Not NRHP eligible
IA50	Ammunition Transfer Facility (Building IA50 Complex)	1953	Cold War-era rectangular metal frame building, sheathed in corrugated cement asbestos siding and roofing, on a concrete foundation	Not NRHP eligible
IA51	Auto Maintenance Facility (Public Works)	1953	Cold War-era reinforced concrete block structure with a flat gravel-covered roof and corrugated metal open-sided shed roof addition on the northwest side	Not NRHP eligible
IA52	Compressor House (Public Works)	1953	Cold War-era reinforced concrete block structure with a flat gravel-covered roof	Not NRHP eligible
IA53	Generator (Utilities and Services Building)	unknown	Generator unit encased in metal and resting on a concrete pad	Not NRHP eligible
IA54	Substation (Utilities and Services Building)	unknown	Generator unit encased in metal and resting on a concrete pad	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
IA55	Inland Field Office/Ordnance Operation (Main Operations Building for Bunker City)	1954	Cold War-era rectangular concrete block building and a parapet-on-gabled shallow roof with a built-up metal decking	Not NRHP eligible
IA56 (three structures)	Field Office/Applied Instruction Building (Former Airport Area)	1954	Cold War-era poured-in-place, board-formed concrete building with an end-gabled roof covered in corrugated metal. Two unnumbered buildings were also present in the Former Airport area, consisting of Cold War-era simple wood-frame structures clad in vertical-groove siding with gabled roofs covered in sheets of composition roofing	Not NRHP eligible
IA57	Pistol Range (MWR Outdoor Court/Field)	1946	Cold War-era range in a depression; several later temporary structures are associated with the range, including a wood-frame observation room and other miscellaneous wood-frame buildings and metal containers of temporary construction quality	Not NRHP eligible
IA58	Materials Laboratory (WQEC Complex)	1957	Cold War-era poured-in-place concrete X-ray facility with railcar access and room for a crane suspended over the railcars or trucks	Not NRHP eligible
IA60	Baseball Field (MWR Outdoor Court/Field)	1957	Cold War-era softball field with two simple wood-frame, shed-roofed dugouts sheathed in vertical-groove wood siding and composition shingles	Not NRHP eligible
IS1	Inert Storehouse Building	1945	World War II-era rectangular cast-in-place concrete structure with corrugated roofing	Not NRHP eligible
IS2	Storehouse Building	1945	World War II-era rectangular cast-in-place concrete structure with corrugated roofing	Not NRHP eligible
IS3	Storehouse Building	1945	World War II-era rectangular cast-in-place concrete structure with corrugated roofing	Not NRHP eligible
IS4	Guided Missile Maintenance Facility	1945	World War II-era rectangular cast-in-place concrete structure with corrugated roofing	Not NRHP eligible
IS5	Guided Missile Air Launch Building	1945	World War II-era rectangular cast-in-place concrete structure with corrugated roofing	Not NRHP eligible
IS6	Inert Storehouse Building	1945	World War II-era rectangular cast-in-place concrete structure with corrugated roofing	Not NRHP eligible
IS7	Guided Missile Container Storage	1945	World War II-era rectangular cast-in-place concrete structure with corrugated roofing	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
IS8	Inert Storehouse Building	1945	World War II-era rectangular cast-in-place concrete structure with corrugated roofing	Not NRHP eligible
IS9	Inert Storehouse Building	1945	World War II-era rectangular cast-in-place concrete structure with corrugated roofing	Not NRHP eligible
IS10-IS14 (five structures)	Inert Material Storage (Bunker City)	1953	Cold War-era rectangular board-formed concrete warehouses under a side-gabled roof that is covered in corrugated asbestos cement and accessible by truck	Not NRHP eligible
IT1	Water Tank (Utilities and Services Building)	1945	Cold War-era reinforced concrete reservoir with a domed concrete roof approximately 80 feet in diameter	Not NRHP eligible
IT2	Water Tank (Utilities and Services Building)		Cold War-era aboveground steel reservoir, 25 feet in diameter	Not NRHP eligible
IT4	Water Tank (Utilities and Services Building)	1959	Cold War-era aboveground steel reservoir, 38 feet in diameter, with a 2,000,000-gallon capacity	Not NRHP eligible
RBS1-95 (42 structures)	Railroad Barricaded Sidings (RBS1-95)	1945	World War II-era cast-in-place concrete walls and earthen-berm railroad car protective siding	Not NRHP eligible
RS1-RS6	Ready Magazine (WQEC Complex)	1947, 1952	Cold War-era earth-covered “igloo”-type magazines with a single roof ventilator, a concrete head wall, and timber retaining walls. The head wall and two additional concrete walls form a U-shaped barricade around the entrances for the magazines	Not NRHP eligible
SD1	RDT&E Storage (WQEC Complex)	1945	Cold War-era poured-in-place warehouse with a flat roof that can house four tiers of storage space. Railcar access is from tracks located along the southwest side of the building	Not NRHP eligible
--	Tunnels (Road System)	c. 1975	Two Cold War-era vehicular tunnels carrying H Street under SR 4, comprised of corrugated metal oval-arch tubes approximately 750 feet long and 20 feet wide, covered with concrete, that run through the earth berm carrying the highway	Not NRHP eligible
--	Mine Shaft	c. 1870-1900	Small mine shaft approximately 40 feet deep	Not NRHP eligible

Table 3.6-2 Architectural Resources Identified within the APE for the Proposed BRAC Undertaking at Former NWS Concord

Building Number[1]	Building/Structure Name	Construction Date	Description	NRHP-Eligibility Determination
--	Naval Railroad/Rail System (Railroad)	continuous	Navy railroad system consisting of 100.35 miles of standard gauge track consisting of a mix of 75-pound to 115-pound salvaged and new rails	Not NRHP eligible
--	Locomotive Washer/Steam Cleaning Facility (Railroad)	1970	Cold War-era rail system support facility, consisting of a concrete pad with a below-grade, reinforced concrete oil separator, covered by a pre-engineered metal-frame shed	Not NRHP eligible
--	Gazebo (Old BEQ)	1972	Cold War-era wood superstructure on a concrete slab, sheltering a brick barbecue pit	Not NRHP eligible
--	Contra Costa Canal/Clayton Canal Bridges and Culverts	ca. 1937-1948	Bridges (13) are simple, standard-plan farm, road, or railroad bridges designed to solve access and crossing issues within NWS Concord and are constructed variously of: timber beam; concrete slabs with wooden railings and resting on concrete abutments; timber beam plank bridges with wooden railings; concrete tee-beam bridges with wooden railings; steel I-beam wooden plank bridges with metal railings; steel girder bridges with concrete deck and wooden railings; and/or steel girders welded together with timber ties, residing on concrete abutments. Culverts (five) are simple concrete structures designed to carry the canals under roads and railroad spurs	Not NRHP eligible
	Stone Cistern	1880-1900 or 1932-1935	Pre-Navy structure consisting of a single-story mortar-laid buttressed stone structure with wooden truss and corrugated steel roof	Not NRHP eligible

Source: Herbert and Allen 2013; Ostrowski 2013; Roland-Nawi 2013.

[1] Each row of this table presents information for one structure unless otherwise indicated.

Site P-07-00861 is NRHP eligible under Criterion A for its repeated use as a ceremonial location for prehistoric people. In particular, Site P-07-00861 retains the potential to provide information about its use and significance as a frequently used ceremonial site that reflects an important aspect of prehistoric ritual life. It may have been a site where rituals were performed and/or plants used to assist in those rituals were gathered and processed. In its current condition, the site preserves a group of archaeological remains that exemplifies the use of certain sites for both ceremonial and utilitarian purposes and provides some insight into how prehistoric people may have conceptualized and divided the use of ritual and living space within a larger territory (ASM Affiliates, Inc. 2014).

Site P-07-00861 is also NRHP eligible under Criterion D for its potential to provide additional information about prehistoric chronology, settlement, and subsistence. Obsidian analysis could provide information about the age of the site and conveyance/exchange networks; analysis of bedrock mortar features and subsistence remains could provide insight into the types and locations of environments used by site occupants and, by extension, the regional use of inland and coastal settings by prehistoric people; and analysis of cupule features could provide insight into prehistoric or ethnographic ceremonial uses of the site, including use of cupules for fertility rituals, to control weather, for puberty/initiation ceremonies, as trail markers, as geographical/territorial boundary markers, or as indications of rituals held to ensure safe passage along a travel route (ASM Affiliates, Inc. 2014).

3.7 Topography, Geology, and Soils

This section describes the topography, geology, soils, and regulatory setting at the former NWS Concord site.

3.7.1 Regulatory Framework

3.7.1.1 Federal

Clean Water Act Section 402

The CWA (33 U.S.C. 1251 *et seq*.) includes provisions for reducing soil erosion for the protection of water quality. The applicable provisions of the CWA are described in Section 3.14, Water Resources.

Farmland Protection Policy Act

The purpose of the Farmland Protection Policy Act (FPPA) (7 U.S.C. 4201 *et seq.*) is to minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses. The FPPA also requires that federal programs be compatible with state, local, and private efforts to protect farmland. In order to minimize conversion of farmland, federal agencies are required to:

- identify and take into account the adverse effects of their programs on the preservation of farmland;
- consider alternative actions, as appropriate, that could lessen adverse effects; and
- ensure that their programs, to the extent practicable, are compatible with state, local government, and private programs and policies to protect farmland.

The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), is charged with oversight of the FPPA. Agencies have the option of determining whether a site contains farmland—and therefore falls under the FPPA—without input from NRCS.

The FPPA established criteria by which impacts on farmland are to be assessed. The criteria include soil quality and characteristics that affect the viability of existing or potential farming operations. For the

purposes of the FPPA, soils are categorized as prime farmland, farmland of statewide importance, unique farmland, or not prime farmland. Prime farmland is land that is particularly well suited for growing agricultural crops. Prime farmland may include farmland that can be made well suited for agriculture if drained or irrigated. Site characteristics that affect the viability of farms include the extent of urbanization in the vicinity, the presence of infrastructure such as water and sewer lines, and the level of agricultural services available in the vicinity.

3.7.1.2 State

Building Codes

The International Building Code (IBC), which encompasses the former Uniform Building Code, is published by the International Code Council (ICC) to provide standard specifications for engineering and construction activities, including measures to address geologic and soil concerns (ICC 2009). Specifically, these measures encompass issues such as seismic loading (e.g., classifying seismic zones and faults), ground motion, and engineered fill specifications (e.g., compaction and moisture content). The referenced guidelines, though not formal regulatory requirements per se, are widely accepted by regulatory authorities and are routinely included in related standards such as grading codes. The IBC guidelines are updated regularly to reflect current industry standards and practices, including criteria from sources such as the American Society of Civil Engineers and the American Society for Testing and Materials (ASTM) International.

The California Code of Regulations, Title 24 (California Building Standards Code), has incorporated the former Uniform Building Code and applies to all applications to local agencies for building permits.

Alquist-Priolo Earthquake Fault Zoning Act

The California Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) was passed in December 1972 primarily to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides, and its purpose is to protect public safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes.

This law requires the state geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back 50 feet from it. Seismic hazard maps have been completed for much of the San Francisco Bay area.

3.7.2 Topography and Geology

3.7.2.1 Topography

The southern portion of the former NWS Concord site is located in the Diablo Valley, which consists of gently sloping lowlands and hilly terrain ranging in elevation from sea level to 400 feet amsl. The floor of the Diablo Valley slopes gently to the northwest. The northeast portion of the site is located within the

Los Medanos Hills, which have peak elevations ranging from 800 feet amsl in the lower hills to greater than 1,400 feet amsl. The Los Medanos Hills have significant topographic relief, including steep slopes of over 50 percent (USGS 1997).

Elevations at the former NWS Concord site range from approximately 165 feet amsl at its southern/western boundary to approximately 656 to 1,437 feet amsl at its northern boundary. The nearest major body of water is the Suisun Bay, located approximately 2.5 miles north of the site.

3.7.2.2 Geology

According to the California Geological Survey (CGS), the former NWS Concord site lies within the southern range of the Coast Range Physiographic Province of California (CGS 2002a). The Coast Range Province is composed of northwest-trending mountain ranges, ridges, and small alluvial valleys that are aligned with and adjacent to the California coastline. The ranges and valleys trend northwest, subparallel to the San Andreas Fault. The Coast Ranges are composed of thick, Mesozoic- and Cenozoic-aged sedimentary strata. The northern and southern ranges are separated by a depression containing the San Francisco Bay (CGS 2002a; USGS 1997).

The bedrock geology at the former NWS Concord site includes Pliocene- to Holocene-aged alluvium in the southern and western site boundaries, Miocene- to Pleistocene-aged sandstone and conglomerates in the northern site boundary, and Paleocene- to Oligocene-aged mudstone and sandstone in the eastern and northern site boundaries (USGS 2005).

3.7.2.3 Geologic Hazards

This section presents information about potential geologic hazards associated with the development of the former NWS Concord site. Hazards evaluated include seismicity and faulting, soil liquefaction, and slope stability.

Seismicity and Faulting

The former NWS Concord site is located in a seismically active area and has a high probability of earthquake hazard. Seismic hazards include earthquakes, ground faulting, and secondary effects such as liquefaction and related slope failures.

According to the CGS, 14 earthquakes have been recorded between 1827 and 1980 within 50 kilometers (km) of Concord, California. The earthquake epicenters were primarily located near San Francisco. These events had Richter Magnitude Values that ranged from 5.5 to 7.0 in magnitude (M), with five of the earthquakes equaling or exceeding 6.0 M. These five earthquakes are described below. Based on the Richter Magnitude Value scale, an earthquake of 5.0 to 5.9 M can be felt by people and would cause major damage to poorly constructed buildings over a small region or slight damage to well-built structures. A 6.0 to 6.9 M earthquake can be destructive in populated areas up to approximately 100 miles across, and an earthquake of greater than 7.0 M can cause serious damage over large areas (CGS 2002b).

The five earthquakes equaling or exceeding 6.0 M were located near the Hayward Fault (7.0 M in 1868), Vacaville (6.6 M in 1892), Mare Island (6.4 M in 1898), Montezuma Hills (6.0 M in 1889), and east of San Francisco Bay (6.0 M in 1864) (CGS 2002b). Additionally, several other significant earthquakes have occurred within the San Francisco Bay area, including the 1906 San Francisco and 1989 Loma Prieta events. The 1906 San Francisco earthquake ruptured 296 miles of the San Andeas Fault from San Juan Bautista, California, in the south to offshore at Shelter Cove, California, in the north. The magnitude has been estimated to be 8.3 M, with an intensity of VIII to IX on the Modified Mercalli Intensity Scale (USGS 2012a). The 1989 Loma Prieta earthquake occurred approximately 96 kilometers south of San

Francisco; however, the peak ground acceleration (PGA) as a percent of gravity (%g) measured east of San Francisco was still significant (0.25g) (USGS 2012b).

Faults

Faults are classified by age as Historic, Holocene, Late Quaternary, Quaternary, and Pre-Quaternary (CGS 2010) according to the following criteria:

- Historically active faults are those that have generated earthquakes accompanied by surface rupturing during historic time (approximately the past 200 years) or that exhibit seismic fault creep (slow, incremental movement along a fault that does not entail earthquake activity).
- Holocene fault displacement has occurred during the past 11,700 years without historic record. These are active faults that show geologic evidence of movement within Holocene time (the most recent geologic epoch). Sufficiently active and well-defined faults show geologic evidence of movement during the Holocene along one or more of their segments or branches, and their trace may be identified by direct or indirect methods.
- Late Quaternary fault displacement has occurred during the past 700,000 years. Inactive faults show direct geologic evidence of inactivity (that is, no displacement) during all of the Quaternary period or longer.
- Most Quaternary faults show evidence of displacement during the past 1.6 million years. Possible exceptions are faults that displaced rocks of undifferentiated Pliocene-Pleistocene age near the end of the Tertiary and beginning of the Quaternary periods.
- Pre-Quaternary faults are older than 1.6 million years or are faults without recognized Quaternary displacement.

Although it is difficult to quantify the probability that an earthquake will occur on a specific fault, the preceding classification is based on the assumption that if a fault has moved during the past 11,000 years, it is more likely to produce earthquakes in the future.

The City of Concord is located within an earthquake fault zone (California Department of Conservation 2007), and several active major faults are in the vicinity of the site (see Table 3.7-1 and Figure 3.7-1). Only one fault is actually located on the former NWS Concord site, the Clayton Section Greenville Fault (northern section of the Greenville Fault). This fault is located in the southeastern to the northeastern portion of the site and is categorized as a Holocene fault. There is no record of historic earthquakes on the Clayton Fault section. The Concord Fault is another active fault, located approximately 1 mile west of the site. It is a major northwest-trending right-lateral fault of the San Andreas Fault system. The Greenville Fault (northern section) and the Concord Fault have both been mapped in the Alquist-Priolo Earthquake Zone, with estimated slip rates of 1 to 2 millimeters per year (mm/yr) and 2 to 4 mm/yr, respectively. In California, slip rates for faults range from 0 to about 38 mm/yr, although a slip rate of more than 10 mm/year is generally considered fast (a slip rate around 1 to 2 mm/yr might be considered average for a major, active fault). The California Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The two faults mentioned above are located in the Alquist-Priolo Earthquake Zone (CGS 2007, 2010).

Faults near the former NWS Concord site are included on Table 3.7-1. In addition, several unnamed Pre-Quaternary faults (older than 1.6 million years) or unnamed faults without recognized Quaternary displacement south of the former NWS Concord site (CGS 2010) are not included in Table 3.7-1.

The USGS has predicted a 63 percent chance of an earthquake with a magnitude of 6.7 or greater occurring in the San Francisco Bay area during the next 30 years. The intensity of the seismic shaking during an earthquake depends on the distance and direction to the earthquake's epicenter, the magnitude of the earthquake, and the area's geologic conditions (USGS 2007). Therefore, earthquakes occurring on faults closest to the former NWS Concord site would have the potential to generate the largest ground motions at the site.

Table 3.7-1 Faults Near the Former NWS Concord Site

Fault	Age Classification	Approximate Distance/ Direction from Site
Clayton Section Greenville Fault	Holocene	On-site
Concord-Green Valley Fault	Historic and Holocene	1 mile west
Franklin Fault	Quaternary	7 miles west
Davis Fault	Quaternary	9 miles east
Kirby Hills Fault	Quaternary fault (age undifferentiated)	9.5 miles northeast
Pleasanton Fault	Holocene and Quaternary fault	10 miles southwest
Calaveras Fault	Historic and Holocene	13 miles southwest
Hayward Fault	Historic	15 miles west
Marsh Creek Section Greenville Fault	Historic	17 miles southeast
Las Positas Fault	Historic Late Quaternary	24 miles south
San Andreas Fault	Historic	34 miles west

Source: CGS 2010.

According to the USGS, the PGA with 2 percent probability of exceedance in 50 years is 0.59g to 0.77g for the region surrounding the NWS Concord site (USGS 2010). The USGS has categorized PGAs in California ranging from 0.01g to 1.00g, and the former NWS Concord site lies within the second-highest interval of the PGA range. PGA is a measure of earthquake acceleration on the ground. It is not a measure of the total energy (magnitude, or size) of an earthquake but, rather, of how hard the earth shakes in a given geographic area. Peak ground acceleration generally correlates well with the Mercalli scale. Per the Modified Mercalli Intensity Scale (Mercalli XII, Inc., 2013), average peak acceleration greater than 0.60g is equal to an intensity value of X (0.60g to 0.80g) to XII (0.90g and higher). A PGA of greater than 0.50g would be similar to an earthquake with a Richter magnitude of greater than 8.5 that would last longer than 37 seconds (Mercalli XII, Inc. 2013).

Liquefaction

Liquefaction generally occurs when loose sand and silt that is saturated with water behaves like a liquid when shaken by an earthquake. Earthquake waves cause water pressures to increase in the sediment and the sand grains to lose contact with each other, leading the sediment to lose strength and behave like a liquid. The soil can lose its ability to support structures and can flow down even very gentle slopes. All parts of the San Francisco Bay region have the potential to be shaken hard enough for susceptible sediment to liquefy (USGS 2006).

Susceptibility to liquefaction under earthquake shaking is delineated by the USGS into five categories (Very Low, Low, Moderate, High, and Very High). Based on review of a liquefaction susceptibility map of the San Francisco Bay area, the former NWS Concord site liquefaction susceptibility ranges from "Very Low" to "Very High" (USGS 2005-2006).

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Faults.mxd

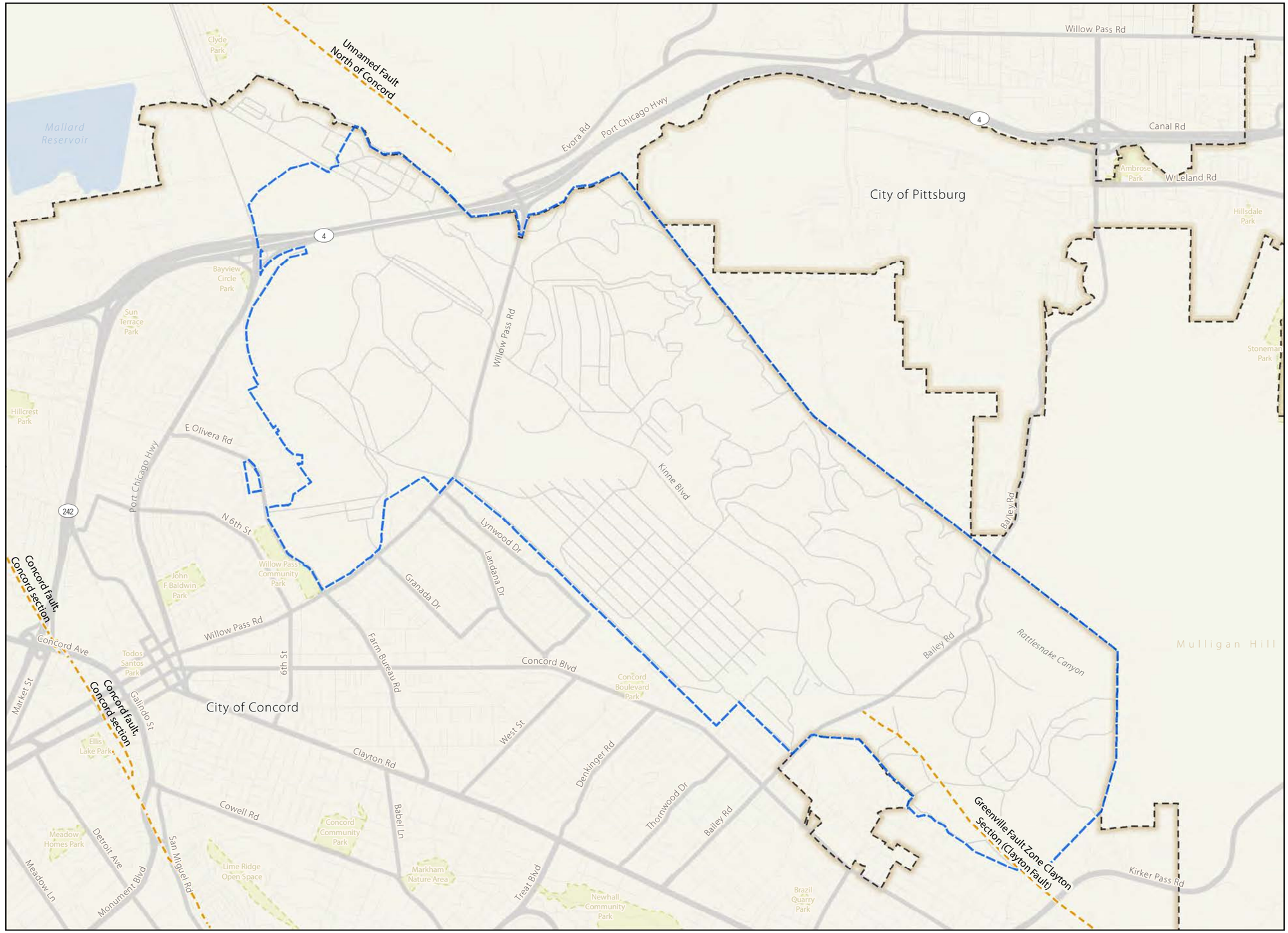


Figure 3.7-1
Faults
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Quaternary Fault

N

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; U.S. Geological Survey, California Geological Survey 2006.

This page intentionally left blank.

Approximately 40 percent to 50 percent of future liquefaction occurrences are expected to occur within areas mapped as Very High susceptibility. This translates to an areal density of about one occurrence for every 1.5 square miles mapped in this category. Only modest shaking is required to cause liquefaction of deposits mapped with Very High susceptibility (a PGA of about 0.1g). Geologic map units included in the Very High category include the latest Holocene and historical stream channels and artificial fills over bay and other estuarine mud (USGS 2006).

Less than 2 percent of future liquefaction occurrences are expected to occur within areas mapped as Very Low susceptibility. This translates to an areal density of less than about one occurrence for every 40 square miles mapped in this category. Stronger shaking (a PGA greater than 0.6g) is required to cause liquefaction of deposits mapped with Very Low susceptibility. Geologic map units included in the Very Low category include Pleistocene deposits and pre-Quaternary deposits and bedrock (USGS 2006).

Slope Stability

Landslides, earth flows, and debris flows are common in the San Francisco Bay region. Landslides include slumps, translational slides, rock falls, deep failure of slopes, and shallow debris flows. Although gravity acting on an over-steepened slope is the primary reason for a landslide, erosion, slopes weakened by saturation, and earthquakes are also contributing factors. Earth flows represent flows of clayey earth, which are actually landslides that move slowly, in contrast to the rapid movement of debris flows. Slides and earth flows deform the ground surface when they move and remain in the landscape as recognizable landslide masses, whereas debris flows run downslope to locations lower in the landscape and form separate, thin deposits that quickly become unrecognizable (USGS 1998).

The former NWS Concord site contains a few small areas described by the USGS as a landslide category of Mostly Landslides. This occurs along the northeastern portion of the site in the Los Medanos Hills area with relatively steep topography. The area categorized as Mostly Landslides consists of mapped landslides and intervening areas typically narrower than 1,500 feet. The remainder of the northeastern area of the site within the Los Medanos Hills with relatively moderate topographic relief is categorized as an area of Few Landslides. This area contains few, if any, large mapped landslides but locally contains scattered small landslides and questionably identified larger landslides. The remaining property at the former NWS Concord site, which consists of the majority of the site, is described by the USGS as Flat Land or Surficial Deposits with minimal threat of landslides (USGS 1998). The Flat Land area on the former NWS Concord site consists of gently sloping lowlands and hilly terrain ranging in elevation from approximately 165 feet amsl to less than 400 feet amsl, making this portion of the site not as susceptible to landslides as the hilly terrain to the northeast.

3.7.3 Soils

The following sections describe soil resources at the former NWS Concord site, including general information regarding the nature and properties of the soil association and/or mapping unit located on the site. Existing information regarding the property's soil resources was gathered from the USDA Contra Costa County Soil Survey (USDA 1977) and the Web-based Natural Resources Conservation Service Soil Survey Geographic database (USDA NRCS SSURGO 2013).

3.7.3.1 Soil Types

The soil types on the former NWS Concord site that have not been substantially altered by development are listed in Table 3.7-2.

Soil types that have been substantially altered for development purposes by grading, filling, and construction of roads, buildings, and other facilities are listed in Table 3.7-3.

Table 3.7-2 Soils of Undeveloped Areas on the Former NWS Concord

Soil	Description	Runoff
Altamont-Fontana Complex, 50 to 75 percent slopes (AcG)	Well-drained soils underlain by shale and soft, fine-grained sandstone.	Where the soils are bare, runoff is rapid.
Cropley Clay, 2 to 5 percent slopes (CkB)	Moderately well-drained soils formed in fine-textured alluvium from sedimentary rock.	Runoff is slow.
Kimball Gravelly Clay Loam, 9 to 30 percent slopes (KaE)	Well-drained soils underlain by weakly cemented, gravelly terrace material.	Runoff is medium.
Positas Loam, 0 to 2 percent slopes (PkA)	Moderately well-drained soils underlain by weakly consolidated terrace material.	Runoff is slow.
Positas Loam, 2 to 9 percent slopes (PkC)	Moderately well-drained soils underlain by weakly consolidated terrace material.	Runoff is slow.

Table 3.7-3 Soils Altered for Development Purposes on the Former NWS Concord

Soil	Description	Runoff
Altamont Clay, 9 to 15 percent slopes (AbD)	Well-drained soils underlain by shale and soft, fine-grained sandstone.	Runoff is slow to medium where the soil is tilled and exposed.
Altamont Clay, 15 to 30 percent slopes (AbE)	Well-drained soils underlain by shale and soft, fine-grained sandstone.	Runoff is medium.
Altamont-Fontana Complex, 30 to 50 percent slopes (AcF)	Well-drained soils underlain by shale and soft, fine-grained sandstone.	Runoff is medium to rapid where the soil is bare.
Antioch Loam, 0 to 2 percent slopes (AdA)	Moderately well-drained soils underlain by old mixed alluvium.	Runoff is slow.
Antioch Loam, 2 to 9 percent slopes (AdC)	Moderately well-drained soils underlain by old mixed alluvium.	Runoff is slow to medium.
Capay Clay, 0 to 2 percent slopes (CaA)	Moderately well-drained soils formed in alluvium from sedimentary rock.	Runoff is very slow.
Capay Clay, 2 to 9 percent slopes (CaC)	Moderately well-drained soils formed in alluvium from sedimentary rock.	Runoff is slow.
Clear Lake Clay (Cc)	Poorly drained soils formed in fine-textured alluvium.	Runoff is very slow.
Conejo Clay Loam, 0 to 2 percent slopes (CeA)	Well-drained and moderately well-drained soils formed in material from sedimentary rock.	Runoff is slow.
Conejo Clay Loam, Clay Substratum, 0 to 2 percent slopes (ChA)	Well-drained and moderately well-drained soils formed in material from sedimentary rock.	Runoff is slow.
Diablo Clay, 9 to 15 percent slopes (DdD)	Well-drained soils underlain by calcareous, soft, fine-grained sandstone and shale.	Runoff is slow to medium.
Garretson Loam, 0 to 2 percent slopes (GaA)	Well-drained soils on alluvial fans and floodplains of small creeks, formed in alluvium from sedimentary rock.	Runoff is very slow to slow.
Garretson Loam, 2 to 5 percent slopes (GaB)	Well-drained soils on alluvial fans and floodplains of small creeks, formed in alluvium from sedimentary rock.	Runoff is slow.

Table 3.7-3 Soils Altered for Development Purposes on the Former NWS Concord

Soil	Description	Runoff
Kimball Gravelly Clay Loam, 2 to 9 percent slopes (KaC)	Well-drained soils underlain by weakly cemented, gravelly terrace material.	Runoff is slow to medium.
Perkins Gravelly Loam, 2 to 9 percent slopes (PaC)	Well-drained soils underlain by weakly consolidated, gravelly old alluvium.	Runoff is slow to medium.
Rincon Clay Loam, 0 to 2 percent slopes (RbA)	Well-drained soils formed in alluvial valley fill from sedimentary rock.	Runoff is slow.
Rincon Clay Loam, 2 to 9 percent slopes (RbC)	Well-drained soils formed in alluvial valley fill from sedimentary rock.	Runoff is medium.
San Ysidro Loam, 0 to 2 percent slopes (Sc)	Moderately well-drained soils formed in alluvium from sedimentary rock.	Runoff is slow.
Zamora Silty Clay Loam, 0 to 2 percent slopes (ZaA)	Well-drained soils formed in alluvium from sedimentary rock.	Runoff is slow.

3.7.3.2 Soil Characteristics and Limitations

Soils on the former NWS Concord property that have not already been developed generally have few moderate developmental limitations. The main developmental limitations include shallow depth to bedrock, potentially hydric soils, poorly drained soil, or flood frequency (occasional flooding is expected to occur infrequently under usual weather conditions, with a 5 to 50 percent chance of flooding in any year or 5 to 50 times in 100 years), all of which may constrain development activities.

Table 3.7-4 lists the individual soil types (i.e., soil map units) within the former NWS Concord site and their extent in acres (Figure 3.7-2). Table 3.7-4 also identifies the map units' prime farmland status and the potential limitations each soil type may present to development that may need to be addressed.

3.7.3.3 Prime Farmland

The NRCS categorizes soils with respect to their suitability for farming. Those soils that are or may be made suitable for farming fall into one of four categories: prime farmland, unique farmland, farmland of statewide importance, and farmland of local importance. Prime farmland, as defined by the USDA, "is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It has the soil quality, growing season, and moisture supply needed to produce a sustained high yield of crops while using acceptable farming methods. Prime farmland produces the highest yields and requires minimal amounts of energy and economic resources, and farming it results in the least damage to the environment" (NRCS 2007). Cultivated land, pastureland, and forestland are all potential prime farmland areas; the classification does not consider whether the land is actively farmed.

Soils that would be described as prime farmland soils if they were irrigated or farmland of statewide importance cover approximately 3,638.8 acres at the former NWS Concord site (see Figure 3.7-2). No unique farmland soils occur on the property (USDA NRCS SURRGO 2013). Developed land (i.e., urban, industrialized, residential, or built-up land) or water bodies are by definition not farmland soils. Developed land and water comprise a small area located in the northwest and southwest portion of the site. Grassland/grazing leases currently cover approximately 85 percent of the site.

Table 3.7-4 Soil Types on the Former NWS Concord Site with Prime Farmland Status or Limitations for Development

Map Unit Symbol	Map Unit Name	Area (acres)	Prime Farmland Status	Acres	Potential Limitations	Hazard of Erosion
AcF	Altamont-Fontana Complex, 30 to 50 percent slopes	805.3	N/A	N/A	Potentially hydric; depth to bedrock 3.5' to 5'	Moderate to high where the soil is bare.
AcG	Altamont-Fontana Complex, 50 to 75 percent slopes	309.8	N/A	N/A	Potentially hydric, Depth to bedrock 3.5' to 5'	High where the soil is bare.
AbE	Altamont Clay, 15 to 30 percent slopes	258.2	N/A	N/A	Depth to bedrock 3.5' to 5'	Moderate where the soil is bare.
AbD	Altamont Clay, 9 to 15 percent slopes	417.3	Farmland of Statewide Importance	417.3	Depth to bedrock 3.5' to 5'	Slight to moderate.
AdA	Antioch Loam, 0 to 2 percent slopes	156.3	Farmland of Statewide Importance	156.3	N/A	Slight where the soil is tilled and exposed.
AdC	Antioch Loam, 2 to 9 percent slopes	377.8	Farmland of Statewide Importance	377.8	N/A	Slight to moderate where the soil is tilled and exposed.
CaA	Capay Clay, 0 to 2 percent slopes	69.3	Prime Farmland if Irrigated	69.3	Potentially hydric	Slight hazard where the soil is tilled and exposed.
CaC	Capay Clay, 2 to 9 percent slopes	52.9	Prime Farmland if Irrigated	52.9	N/A	Slight where the soil is tilled and exposed.
Cc	Clear Lake Clay	378.4	Prime Farmland if Irrigated	378.4	Potentially hydric, poorly drained soil; occasional flood frequency (annual probability of a flood event)	Slight hazard where the soil is tilled and exposed.
CeA	Conejo Clay Loam, 0 to 2 percent slopes	69.8	Prime Farmland if Irrigated	69.8	Potentially hydric	Slight hazard if soil is tilled and exposed.
ChA	Conejo Clay Loam, Clay Substratum, 0 to 2 percent slopes	5.7	Prime Farmland if Irrigated	5.7	Potentially hydric	Slight hazard if soil is tilled and exposed.
CkB	Cropley Clay, 2 to 5 percent slopes	46.9	Prime Farmland if Irrigated	46.9	Potentially hydric	Slight where the soil is tilled and exposed.
DdD	Diablo Clay, 9 to 15 percent slopes	349.7	Farmland of Statewide Importance	349.7	Depth to bedrock 3.5' to 5'	Slight to moderate where the soil is tilled and exposed.

Table 3.7-4 Soil Types on the Former NWS Concord Site with Prime Farmland Status or Limitations for Development

Map Unit Symbol	Map Unit Name	Area (acres)	Prime Farmland Status	Acres	Potential Limitations	Hazard of Erosion
GaA	Garretson Loam, 0 to 2 percent slopes	37.7	Prime Farmland if Irrigated	37.7	N/A	Slight where the soil is tilled and exposed.
GaB	Garretson Loam, 2 to 5 percent slopes	96.8	Prime Farmland if Irrigated	96.8	N/A	Slight where the soil is tilled and exposed.
KaC	Kimball Gravelly Clay Loam, 2 to 9 percent slopes	117.7	Farmland of Statewide Importance	117.7	N/A	Slight to moderate where the soil is tilled and exposed.
KaE	Kimball Gravelly Clay Loam, 9 to 30 percent slopes	296.7	N/A	N/A	N/A	Moderate where soil is bare.
PaC	Perkins Gravelly Loam, 2 to 9 percent slopes	74.4	Prime Farmland if Irrigated	74.4	N/A	Slight to moderate where the soil is tilled and exposed.
PkA	Positas Loam, 0 to 2 percent slopes	5.3	Farmland of Statewide Importance	5.3	N/A	Slight where the soil is tilled and exposed.
PkC	Positas Loam, 2 to 9 percent slopes	0.5	Farmland of Statewide Importance	0.5	N/A	Slight where the soil is bare.
RbA	Rincon Clay Loam, 0 to 2 percent slopes	604.0	Prime Farmland if Irrigated	604.0	Potentially hydric	Slight where the soil is tilled and exposed.
RbC	Rincon Clay Loam, 2 to 9 percent slopes	122.1	Prime Farmland if Irrigated	122.1	N/A	Slight where the soil is tilled and exposed.
Sc	San Ysidro Loam	35.5	NA	NA	Potentially hydric	Slight.
ZaA	Zamora Silty Clay Loam, 0 to 2 percent slopes	349.0	Prime Farmland if Irrigated	349.0	N/A	Slight hazard of erosion.
Grand Total		**5,038[1]**		**3,332**		

Source: USDA NRCS SSURGO 2013.

[1] As noted in Section 1.10 of this FEIS, the total area of the surplus property is currently estimated to be 4,972 acres, which is 66 acres less than the surplus property reported in the Draft EIS. Acreages are provided for planning purposes only and do not necessarily reflect the total acreage of the surplus property.

Key:
N/A = Not applicable.

3.7.3.4 Hydric Soils

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper soil layer. Hydric soils tend to be saturated for significant parts of each year, may be prone to flooding or ponding, and tend to have poor drainage. These qualities are limitations that must be addressed to improve their suitability for construction.

Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation. Because of this, regulated wetlands may occur in hydric soils. None of the map units within the former NWS Concord site are composed entirely of hydric soils. However, approximately 2,437.6 acres of the site contains soil map units (AcF, AcG, CaA, Cc, CeA, ChA, CkB, RbA, and Sc) that may include areas of hydric soils (USDA NRCS SSURGO 2013).

3.7.3.5 Constructability

Constructability refers to the relative suitability of a soil for the construction of buildings, roads, and other infrastructure. Table 3.7-4 identifies attributes that may adversely affect constructability for each soil map unit. Specific design and construction practices can be employed to overcome constructability limitations.

Shallow depth to bedrock (bedrock within 3.5 to 5 feet of the surface) may require blasting to excavate for foundations. Approximately 41 percent of the site is covered by soils with a shallow depth to bedrock. Areas that flood should generally be avoided as building sites. Measures taken to address constructability limitations usually increase construction costs.

Hydric soils may be associated with wetlands that are subject to regulation by federal and/or state regulation. The wet conditions associated with hydric soils may also present limitations to development activities, such as excavation and the movement of heavy equipment. Approximately 45 percent of the site has map units that may contain hydric soils.

A portion of the soils at the former NWS Concord site have already been developed or modified for some purpose. Prior modifications may or may not have overcome some of the limitations to development. To varying degrees, all soils may require specific measures to control soil erosion and limit runoff of sediment during clearing and construction activities.

3.8 Hazards and Hazardous Substances

This section describes the regulatory framework and existing site conditions at the former NWS Concord with respect to the Navy Environmental Restoration (ER) Program and compliance programs for hazardous wastes and materials existing on the former installation. For the purposes of this EIS, the term “hazardous materials” will generically apply to materials that could be an environmental hazard if not properly managed and includes materials such as chemicals; metals; petroleum, oil, and lubricants; materials stored in tanks; asbestos; lead-based paint (LBP); polychlorinated biphenyls (PCBs); pesticides; and radioactive materials. Hazardous waste has a specific regulatory definition that is further discussed in this section.

Environmental management, investigation, and cleanup activities at the former NWS Concord are ongoing; therefore, this section presents the latest data available at the time of preparation. Data presented in this section of the Draft EIS have been updated for the Final EIS with information current through

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Soils.mxd

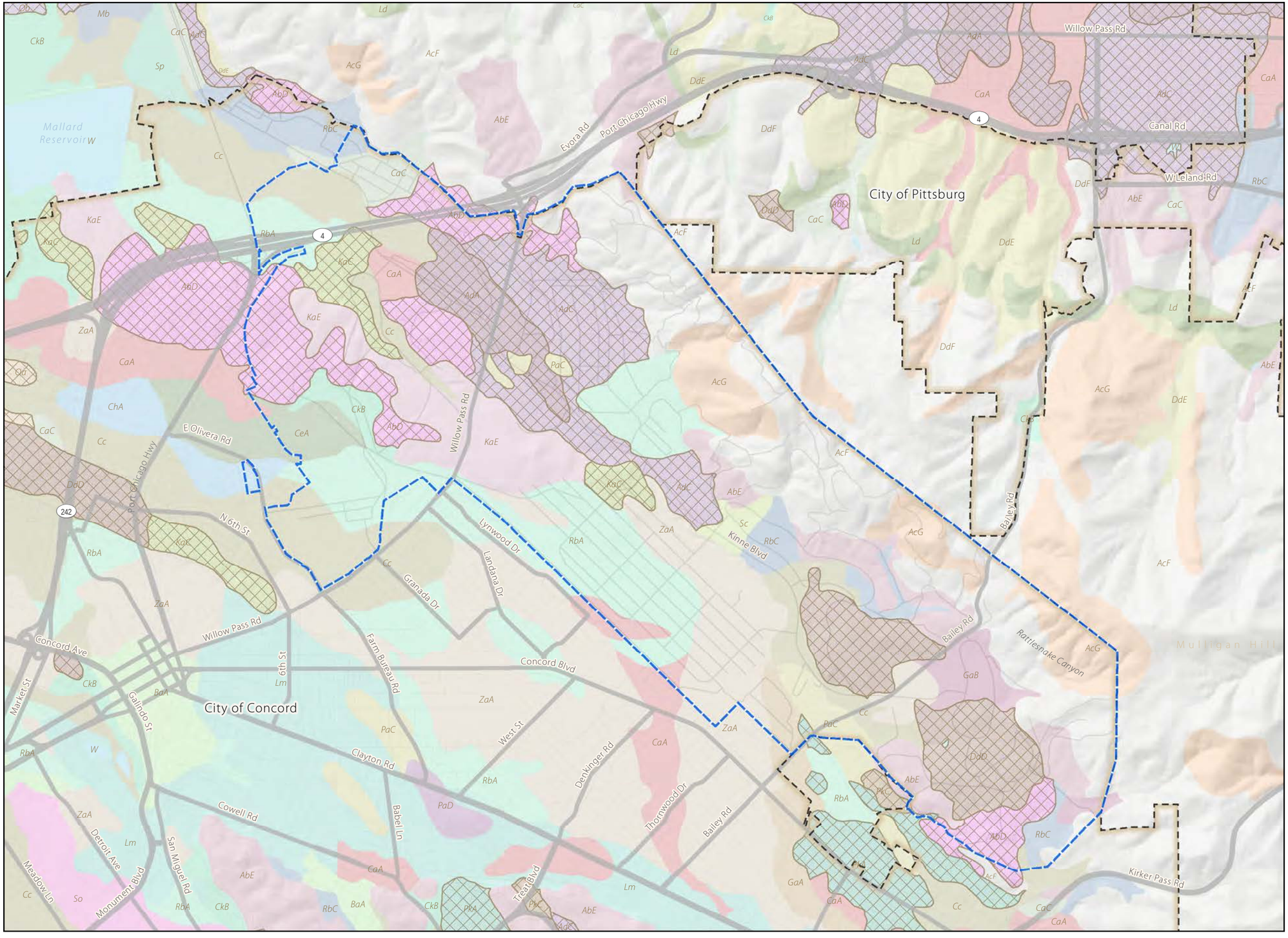


Figure 3.7-2
Soil Units
Former NWS Concord
Concord, California

Legend

Former NWS Concord
City Limits

Soil Unit

AbD	Ld
AbE	Lm
AcF	Mb
AcG	Md
AdA	Oa
AdC	Ob
BaA	PaC
CaA	PaD
CaC	PkA
Cc	PkC
CeA	Qa
ChA	Ra
CkB	RbA
DdD	RbC
DdE	RbD
DdF	Sc
GaA	So
GaB	Sp
KaC	W
KaE	ZaA

Farmland of Statewide Importance

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; U.S. Department of Agriculture, Natural Resources Conservation Service, 2007.

This page intentionally left blank.

December 2016. Current information regarding the ER and compliance programs is maintained as part of the Navy's administrative record and can be found in the local information repository at the Concord Public Library[5] or on the NWS Concord webpages on the Navy BRAC PMO website at: http://www.bracpmo.navy.mil.

3.8.1 Background

The Navy has been performing environmental restoration activities at the former NWS Concord under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) since 1982, when it performed an Initial Assessment Study (IAS) to identify sites where contamination was suspected to pose a threat to human health or the environment (Ecology and Environment, Inc., 1983). The IAS was followed by a Site Investigation (SI) study of the Inland Area (known as the Inland Area SI) that was completed in 1993 (PRC Environmental Management, Inc. and Montgomery Watson 1993). The former NWS Concord was placed on the CERCLA National Priorities List (NPL) on December 16, 1994, under EPA ID CA7170024528. On June 12, 2001, the Navy entered into a Federal Facility Agreement (FFA) with EPA Region 9 under CERCLA Section 120 (EPA 2001). The California Department of Toxic Substances Control (DTSC) signed on to the FFA on May 14, 2007 (DTSC 2007), and the San Francisco Bay Regional Water Quality Control Board (RWQCB) signed on to the FFA on June 6, 2007 (San Francisco Bay RWQCB 2007a). The FFA requires that the Navy investigate and remediate actual or threatened releases of hazardous substances, pollutants, and contaminants at the former NWS Concord in accordance with CERCLA Section 120; specific sections of the Resource Conservation and Recovery Act (RCRA); EO 12580, entitled Superfund Implementation; the Defense Environmental Restoration Program (DERP); and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (Section 3.8.2 provides additional detail regarding these regulations). The FFA listed the areas and sites considered to be areas of contamination, established goals and responsibilities among the Navy and the regulatory agencies, and set enforceable cleanup schedules for the sites. A Restoration Advisory Board, which first met in 2001, consists of Navy and community representatives and state and federal regulators who advise the Navy on environmental cleanup issues and strategies.

The Navy is complying with CERCLA by conducting the Navy ER Program, which is a component of the DERP. Under the ER Program, the Navy is addressing releases of hazardous substances at the former NWS Concord to ensure adequate protection of human health and the environment. Potential environmental effects of CERCLA response actions (such as soil excavation, soil transport, and operation of treatment systems) are evaluated by the Navy and regulatory agencies during the CERCLA process. The Navy and the regulatory agencies consider future redevelopment and reuse during the CERCLA decision-making process. Appropriate controls to protect human health and the environment are incorporated into the selection, design, and implementation of the CERCLA response actions.

Separate from investigation and remediation under CERCLA, the Navy is implementing compliance programs for other potential hazards, such as hazardous waste, underground and aboveground storage tanks, asbestos, LBP, and PCBs.

3.8.2 Environmental Restoration and Regulatory Overview

The Navy performs environmental restoration and compliance activities for hazardous wastes and materials at the former NWS Concord in accordance with the primary programs and regulatory requirements discussed in this section.

[5] An information repository for the NWS Concord project is located at the Concord Public Library, 2900 Salvio Street, Concord, CA, 94519.

3.8.2.1 Environmental Restoration

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA, commonly known as Superfund, provides federal authority for response actions to clean up abandoned or uncontrolled hazardous waste sites. CERCLA requires federal agencies to respond to releases or threatened releases of hazardous substances, pollutants, or contaminants that may endanger human health or the environment. CERCLA specifically uses the term "hazardous substance" as opposed to "hazardous material." Under CERCLA, the EPA developed the NPL, a list of sites that present the greatest risk to public health and the environment.

CERCLA Section 120(h)(3)(A) requires that, prior to property transfer, all necessary remedial actions to protect human health and the environment with respect to any hazardous substance remaining on the property be completed or in place and proven to be operating properly and successfully. CERCLA Section 120(h)(3)(A) imposes several requirements on transfers of federal real property "owned by the United States" to non-federal entities. With regard to the federal real property disposal process, CERCLA requires the federal government to:

- Give notice of hazardous substance activity to the grantee (120[h][3][A][i]);
- Include a covenant in the deed that "all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer" (120[h][3][A][ii][I]);
- Include a covenant in the deed that the United States will return and perform any additional remedial action that may be required in the future (120[h][3][A][ii][II]); and
- Retain a perpetual right of access necessary to do such additional response actions (120[h][3][A][iii]).

These requirements only apply to conveyances of real property out of federal ownership. They do not apply to interagency federal real property transfers or to leases, licenses, or easements granted for the use of federal land. CERCLA 120(h)(3)(B) further addresses specific requirements for deed covenants.

CERCLA Section 120(h)(3)(C) allows property at NPL sites to be transferred before all necessary remedial actions have been taken if the EPA, with the concurrence of the governor of the state in which a facility is located, determines that the property is suitable for transfer, based on a finding that:

(I) The property is suitable for transfer for the use intended by the transferee, and the intended use is consistent with protection of human health and the environment;

(II) The deed or other agreement proposed to govern the transfer between the United States and the transferee of the property contains assurances that:

1. Provide for any necessary restrictions on the use of the property to ensure the protection of human health and the environment;
2. Provide that there will be restrictions on use necessary to ensure that required remedial investigations, response action, and oversight activities will not be disrupted;
3. Provide that all necessary response action will be taken and identify the schedules for investigation and completion of all necessary response action as approved by the appropriate regulatory agency; and

4. Provide that the federal agency responsible for the property subject to transfer [in this case, the Navy] will submit a budget request to the Director of the Office of Management and Budget that adequately addresses schedules for investigation and completion of all necessary response action, subject to congressional authorizations and appropriations;

(III) The federal agency requesting deferral [in this case, the Navy] has provided notice, by publication in a newspaper of general circulation in the vicinity of the property, of the proposed transfer and of the opportunity for the public to submit, within a period of not less than 30 days after the date of the notice, written comments on the suitability of the property for transfer; and

(IV) The deferral and the transfer of the property will not substantially delay any necessary response action at the property (EPA 2002).

Transfer of property pursuant to CERCLA Section 120(h)(3)(C) is commonly referred to as an "early transfer."

Superfund Amendments and Reauthorization Act

CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, which mandated that the DOD follow the same cleanup regulations that apply to private entities. SARA established the DERP, discussed below.

Defense Environmental Restoration Program

The DERP is the broad program encompassing the Navy ER Program and is driven by statutory requirements in SARA, with delegated federal lead agency authority from the president of the United States to DOD through EO 12580. Through the DERP, the DOD conducts environmental restoration activities at sites on active installations, installations undergoing BRAC, and formerly utilized defense sites (FUDS). The three main objectives of the DERP are:

- The identification, investigation, research and development, and cleanup of contamination from hazardous substances, pollutants, and contaminants;
- The correction of other environmental damage (such as detection and disposal of unexploded ordnance) that creates an imminent and substantial endangerment to public health or the environment; and
- The demolition and removal of unsafe buildings and structures, including those identified at FUDS.

Navy Environmental Restoration Program

To comply with the DERP, the Navy established the ER Program to reduce the risk to human health and the environment from past waste disposal operations and hazardous substance spills, including certain petroleum spills not addressed in the CERCLA framework. The Navy ER Program encompasses three main program categories. Sites in two of the program categories are managed at the former NWS Concord: the Installation Restoration Program (IRP) and the MMRP. The IRP addresses releases of hazardous substances, pollutants, or contaminants that pose toxicological risks to human health or the environment. The MMRP addresses environmental health and safety hazards from munitions and explosives of concern (MEC) and munitions constituents.

The Navy ER Program is structured in accordance with CERCLA requirements, which specify sequential procedures for initiating and carrying out the remedial process. The primary steps and a brief description of each are as follows (Navy August 2006):

1. **Site discovery and notification:** Designation of a potentially contaminated site.
2. **Preliminary assessment/site inspection (PA/SI):** Description of the site on the basis of file reviews and limited field data collection. Identifies locations requiring additional investigation and potential remediation.
3. **Remedial investigation/feasibility study (RI/FS):** The RI involves sampling/analysis and data collection to determine the nature and extent of contamination. The FS evaluates the effectiveness and cost of feasible remedial alternatives.
4. **ROD:** The preferred remedial alternative is documented in a proposed plan for public comment. The ROD then identifies the selected remedy based on the RI/FS report and public comment.
5. **Remedial design (RD):** Design of the remedial action selected in the ROD. Remedial designs for hazardous sites commonly include different types and combinations of remedial actions, such as excavation and disposal; treatment and containment of hazardous materials, pollutants, or contaminants; and land use controls (LUCs).
6. **Remedial action, construction:** Construction of the designed remedial system. This may include construction of any applicable LUCs.
7. **Remedy in place:** Milestone at which remedial construction has been completed and the remedy is operating as planned to meet remedial objectives.
8. **Remedial action, operation:** Operation, maintenance, and monitoring activities for the remedial system and site. This may include management of LUCs.
9. **Response complete:** Milestone at which remedial objectives have been met and cleanup goals achieved.
10. **Long-term management:** Long-term monitoring of the protectiveness of the remedy. This may include groundwater monitoring and management of LUCs.
11. **Site closeout:** Milestone at which the Navy has completed active management and monitoring at the site, the remedy is protective of human health and the environment, and contaminant levels allow for the site's intended use.

The primary response actions are supplemented with other studies and actions as necessary to address the site, such as removal actions, interim remedial actions, human or ecological risk assessments, and the application of LUCs or institutional controls (ICs). Both LUCs and ICs are restrictions placed on a site to protect human health and the environment in cases where the site cannot or will not be cleaned up to levels that allow unrestricted use. LUCs are physical (e.g., engineering controls), legal (e.g., restrictive covenants or deeds), or administrative (e.g., notices and permits) mechanisms that restrict property use to ensure that land use activities in the future remain compatible with the conditions of the land. ICs are typically administrative or legal devices. Implementation of LUCs or ICs will allow a property to be developed for its intended use while preventing exposure to residual levels of hazardous constituents.

The EPA, state agencies, and the public have opportunities to review and comment on assessments/studies and proposals for removal/remedial actions throughout the process. A site may be removed from the NPL when the final ROD requirements are attained and the site is operational and functional.

Because CERCLA excludes petroleum from its definition of hazardous substances, the cleanup of petroleum releases from underground storage tanks or other sources is regulated under RCRA and state law (see Section 3.8.2.2.2) and not under the ER Program.

The Navy investigates the potential for radioactive contamination of the environment under the CERCLA process and in coordination with the FFA signatories. Navy operations involving radioactive materials are authorized directly by the U.S. Nuclear Regulatory Commission (NRC) and the Navy Master Materials License and are not licensed by state radiation-control agencies. The California Department of Public Health (CDPH) provides consultation to the DTSC on radiological issues at BRAC sites on the NPL.

3.8.2.2 Environmental Compliance

In addition to the requirements of the ER Program, the Navy has complied with other regulations for hazardous wastes and materials during its ownership and occupancy of the former NWS Concord property. Such regulations also would apply to the management of hazardous wastes and materials during future occupancy and use by transferees after the Navy has conveyed the property.

The compliance programs discussed below are federal and state programs. There are few local (i.e., Contra Costa County and City of Concord) regulations related to hazardous wastes and materials. However, in California, a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) is implemented at the local level by a Certified Unified Program Agency (CUPA). The CUPA has responsibility in its jurisdiction for the six elements of the Unified Program: hazardous waste generator and on-site hazardous waste treatment; underground storage tanks (USTs); aboveground storage tanks (ASTs); hazardous materials release response plans and inventories; accidental release prevention; and Uniform Fire Code hazardous materials management plans and inventories. The CUPA for Contra Costa County is Contra Costa Health Services (CCHS).

3.8.2.2.1 Hazardous Waste

RCRA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA Hazardous and Solid Waste Amendments of 1984 added land disposal restrictions and corrective action requirements, among others.

The DTSC regulates hazardous waste and RCRA programs in California in Title 22, Division 4.5, of the CCR, *Environmental Health Standards for the Management of Hazardous Waste*. In addition to listed and characteristic hazardous wastes as defined by the EPA and DTSC (characteristic wastes exhibit properties such as toxicity, ignitability, corrosivity, or reactivity), universal wastes are regulated as hazardous wastes. Universal wastes include batteries, certain pesticides, mercury-containing equipment (such as thermostats), and mercury-containing light bulbs (such as fluorescent bulbs). The CUPA has responsibility for certain lower tiers of hazardous waste generators.

3.8.2.2.2 Hazardous Materials

General Hazardous Material Control

Hazardous materials are required to be stored in designated areas designed to prevent accidental release to the environment. The California Building Code (CBC) describes the requirements to safely store materials that are a moderate explosion hazard, high fire or physical hazard, or health hazard.

Under Title 19 of the CCR, Division 2, Chapter 4, Article 4, the California Emergency Management Agency requires businesses (which include governments and agencies) that handle or store certain amounts of hazardous materials to submit a hazardous materials business plan that includes an inventory of hazardous materials stored on-site, an emergency response plan, and an employee training program.

The business plan satisfies the EPA's requirements for reporting hazardous materials to the local community in accordance with the Emergency Planning and Community Right-to-Know Act (EPCRA).

Underground Storage Tanks (USTS)

USTs containing hazardous substances or petroleum products are regulated by the EPA under RCRA Subtitle I. In California, the State Water Resources Control Board (SWRCB) and RWQCBs regulate USTs under the authority of Title 23 of the CCR, Division 3, Chapter 16, *Underground Storage Tank Regulations*. If released, hazardous substances such as petroleum can affect groundwater, public health and safety, and the environment. The SWRCB and RWQCBs also provide regulatory oversight for the petroleum corrective action program (under Article 11 of the regulations) to clean up UST sites where petroleum was released. The CUPA (CCHS) implements the UST regulations at the local level.

The Navy investigates known or suspected petroleum release sites and conducts remediation as appropriate. The petroleum cleanup follows a parcel-by-parcel iterative process similar to the CERCLA environmental restoration program; i.e., investigation followed by identification of cleanup options, culminating in the approval by the RWQCB of a corrective action plan for each parcel as necessary and implementation of the cleanup actions identified in that plan.

Aboveground Storage Tanks (ASTs)

ASTs used for the storage of petroleum products are regulated by the EPA under the CWA and, in California, by the California Environmental Protection Agency (CalEPA) under the state Aboveground Petroleum Storage Act. The CUPA (CCHS) implements the AST regulations at the local level. A primary component of the compliance program for ASTs is maintenance of a spill prevention, control, and countermeasures (SPCC) plan when the ASTs at a facility have an aggregate storage capacity greater than 1,320 gallons of petroleum.

Asbestos

Abatement of asbestos-containing material (ACM) is regulated under Title II of the Toxic Substances Control Act (TSCA). Asbestos is also regulated as a hazardous air pollutant under the CAA and as a potential worker safety hazard. The agencies with primary responsibility for asbestos safety in California are Air Quality Management Districts (AQMDs) and California Occupational Safety and Health Administration (Cal/OSHA).

Lead-Based Paint

LBP is regulated under Title IV of the TSCA. As with asbestos, lead is regulated as a hazardous air pollutant under the CAA and as a potential worker safety hazard, and it is regulated in California for those hazards by AQMDs and Cal/OSHA. The waste from LBP removal is typically evaluated to determine whether it must be managed as a hazardous waste under RCRA. In addition, the California Department of Public Health (CDPH) regulates lead in residential areas and facilities where children could be at risk from lead poisoning.

Polychlorinated Biphenyls

PCBs are regulated under the TSCA. The DTSC regulates PCBs and PCB-contaminated materials as a California hazardous waste when the PCBs exceed certain limits. The PCB-containing light ballasts from older fluorescent light fixtures typically require management as a hazardous waste in California.

Radioactive Materials

The CDPH is responsible for ensuring that facilities that use radioactive materials or radiation-producing equipment (such as X-ray equipment) are properly licensed in accordance with state and federal laws and regulations, including the state Radiation Control Law and Title 17 of the CCR, Division 1, Chapter 5, Subchapter 4, *Radiation*. The CDPH receives its authority from the NRC. Navy operations involving

radioactive materials are authorized directly by the NRC and Navy Master Materials License and are not licensed by state radiation control agencies.

Pesticides

Pesticides, which include herbicides, are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act. The California Department of Pesticide Regulation regulates pesticide use in the state.

Transportation of Hazardous Materials

Hazardous materials that result from construction or other activities at the former NWS Concord property may require off-site transportation for disposal and/or treatment. The U.S. Department of Transportation (DOT) regulates the transportation of hazardous materials in Title 49 of the CFR. The California Highway Patrol (CHP) regulates the transportation of hazardous materials in Title 13 of the CCR, Division 2, Chapter 6, *Hazardous Materials*. Transportation and disposal of material, such as soil, that is classified as a hazardous waste would be subject to applicable federal and state regulations, including those of the DTSC.

3.8.2.3 Finding of Suitability to Transfer

Before transfer of BRAC property, the Navy must ensure that all applicable statutory and regulatory requirements have been satisfied. The Navy prepares a Finding of Suitability to Transfer (FOST) for the transfer of title to real property by deed to non-federal entities. A FOST summarizes how the applicable requirements and notifications for hazardous substances, hazardous materials, petroleum products, and other regulated materials (such as ACM, LBP, and PCBs) have been satisfied and that the property is environmentally suitable for transfer. A FOST also addresses any restrictions, notifications, or deed covenants related to regulated materials at the surplus property. Any long-term remedies, including LUCs or ICs, and responsibilities for maintenance and reporting are discussed in a FOST. A FOST is forwarded to the EPA and state agencies for review and comment (DOD 2006). The Navy issued a draft final FOST in support of the first phase of property transfer on June 30, 2016.

As described in Section 3.8.2.1, CERCLA 120(h)(3)(A)(ii) and (B) address requirements for deed covenants applicable to the transfer of property out of federal ownership. In compliance with those requirements, the Navy will ensure that the deed for transfer of any property on which "any hazardous substance was stored for one year or more, [or] known to have been released, or disposed of" as a result of former activities conducted by the U.S. will include a covenant made pursuant to CERCLA 120(h)(3)(A)(ii) and (B). The covenant will warrant that "all remedial action necessary to protect human health and the environment with respect to any hazardous substance identified pursuant to §120(h)(3)(A)(i)(I) of the CERCLA of 1980 remaining on the property has been taken before the date of this deed(s)" and that "any additional remedial action found to be necessary after the date of such transfer shall be conducted by the United States." This covenant will not apply to any remedial action required on transferred property that "is the result of an act or omission of the transferee that causes a new release of hazardous substances."

Potentially contaminated properties can be transferred under the "early transfer" process of CERCLA, as described in Section 3.8.2.1, in which case the Navy would prepare a Finding of Suitability for Early Transfer (FOSET) to transfer property prior to completion of cleanup actions. In the case of a FOSET, either the Navy or the property recipient may conduct cleanup actions. A FOSET allows for earlier property transfer and redevelopment while still assuring property cleanup.

3.8.3 Environmental Restoration Program Sites

This section summarizes the existing conditions regarding ER Program sites at the former NWS Concord property. The ER Program at the former NWS Concord encompasses two program areas—the IRP and

the MMRP. The CERCLA actions the Navy is implementing at the former NWS Concord follow the process described in Section 3.8.2.1 and have typically encompassed the steps of RI/FSs, RODs, RD, land use control remedial design (LUC-RD), remedial action operation and maintenance, long-term monitoring, and site closeout. The Navy secures the approval of FFA signatories or their designees at applicable steps in the CERCLA process.

As with other former installations, the former NWS Concord ER Program has been an evolving and dynamic program. Over time, investigations of various geographic, media, and constituent focus areas (e.g., soil, groundwater, chemicals, radioactive materials, munitions) have led to some sites moving among the IRP, MMRP, and compliance programs in order to appropriately and efficiently remediate hazardous substances. The Navy maintains a site management plan for the former NWS Concord that consists of a master schedule listing the Navy ER Program sites, tasks completed, and schedule for planned work. For clarity in this document, the status of the ER Program as of December 2016 has been selected as the baseline date to describe the existing conditions of the ER Program sites. This baseline date incorporates information from the draft final site management plan schedule dated November 15, 2016 (Navy November 2016), as well as other information. The ER Program sites are therefore categorized below in the program area in which they were being addressed as of December 2016. In cases where sites have moved across programs, additional categorization and site identifiers are included where practicable.

3.8.3.1 Installation Restoration Program Sites

The IRP sites designated at the former NWS Concord are in various stages of investigation. Some sites have been closed, recommended for no further action, or transferred to other cleanup programs. The IRP sites and site investigation history are described below. Table 3.8-1 summarizes the sites, past actions associated with them, and their current status, including certain anticipated next steps. The sites are shown on Figure 3.8-1.

3.8.3.1.1 Active IRP Sites

IRP Solid Waste Management Unit Sites

Four solid waste management units (SWMUs)—SWMUs 2, 5, 7, and 18—are being investigated under the IRP. The sites, comprising about 22 acres total, were originally investigated under RCRA in the 1990s and then transferred to the CERCLA IRP following the performance of a RCRA Facility Assessment Confirmation Study (completed in 1997), which recommended further investigating chemicals at the sites under the IRP. The sites, located in the northwestern portion of the Inland Area, have been grouped together for study under the IRP due to their close proximity and similar history of use and operations. Subsequent investigations confirmed the presence of VOCs in groundwater and soil at portions of the sites. Following the RI and FS, the ROD (Navy July 2010) specified air sparging to address VOCs in groundwater and soil vapor extraction to address VOCs in soil gas. The remedies are expected to operate through 2017, and a five-year review was completed in September 2016 (Navy April 2006, July 2010, September 2016, November 2016).

- **SWMU 2, Building IA-7 Burn Pit.** Building IA-7 was built in the mid-1940s as a fire station and is still in operation. Fuel oil and napalm were reportedly burned in a shallow pit south of the building as part of firefighting training from 1969 to 1973. Fire-extinguishing chemicals reportedly included ammonium phosphate, potassium carbonate, potassium chloride, and sodium chloride.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Environmental_Restoration_Sites_combined_2017_01_11.mxd 1/19/2017

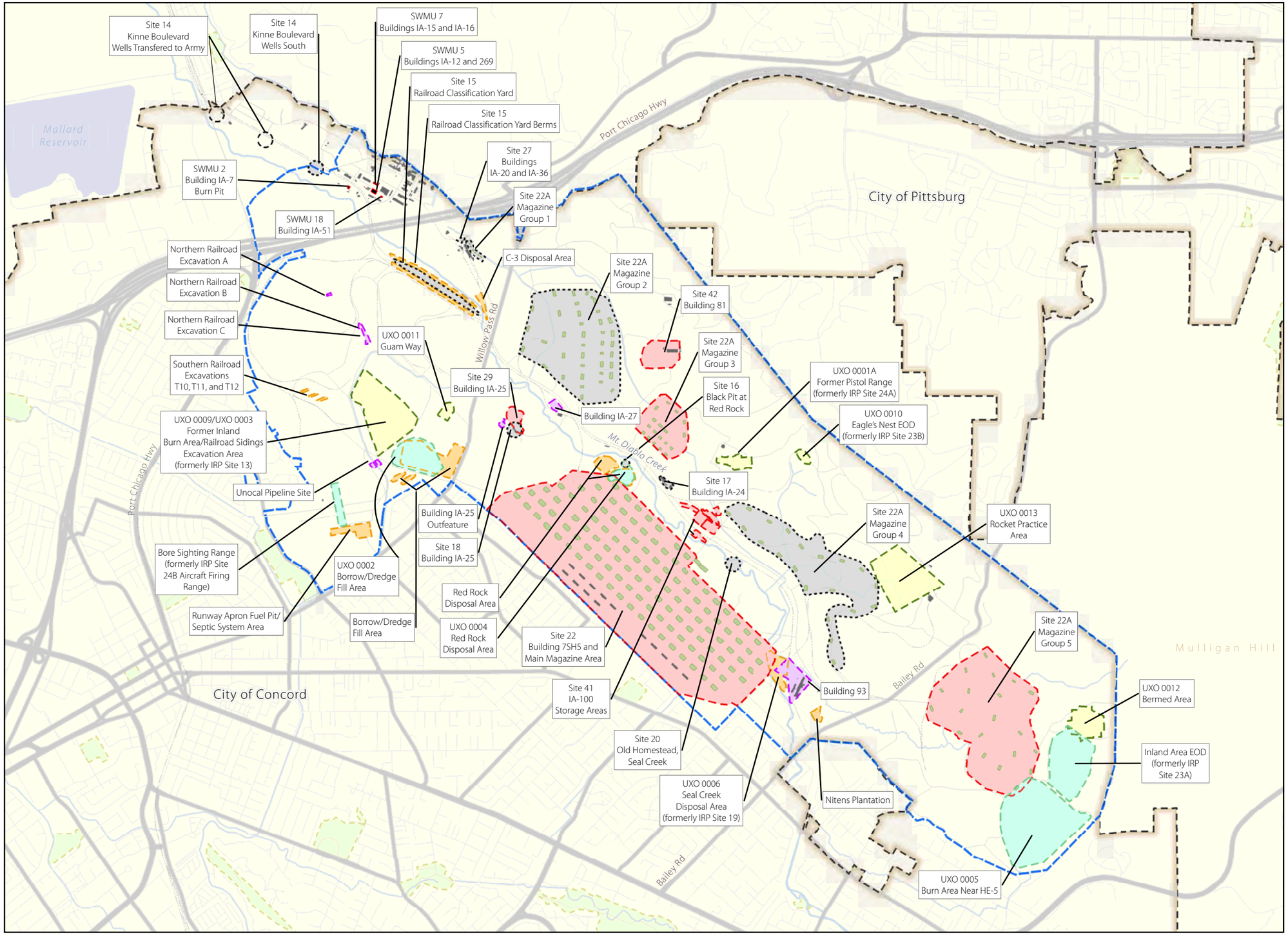


Figure 3.8-1
ER Program Sites
Former NWS Concord
Concord, California

Legend

- Major Road
- Street
- Railroad
- Stream/Canal
- Former NWS Concord
- City Limit
- Waterbody
- Local Park
- Building
- Magazine
- Active Installation Restoration Program (IRP) Site
- Closed or No Further Action IRP Site
- Active Military Munitions Response Program (MMRP) Site
- Closed or No Further Action MMRP Site
- Closed or No Further Action Area of Potential Interest (AOPI) Site
- Preliminary Assesment/ Re-verification Investigation (PA/RVI) Site

N

SCALE

0 0.5 1 Miles

SOURCE: Navy 2006, 2008, 2014; ESRI 2010; Tetra Tech 2014. (See text for additional site-specific references)

This page intentionally left blank.

Table 3.8-1 Summary of Environmental Restoration Program Sites

Site Number	ER Program Site Name	Program Activity: Key Activity	Program Activity: Date Completed	Current Status	Constituents of Concern
Installation Restoration Program (IRP) Sites					
Active IRP Sites					
Solid Waste Management Unit Sites: • SWMU 2 • SWMU 5 • SWMU 7 • SWMU 18	• Building IA-7 Burn Pit • Buildings IA-12 and 269 • Buildings IA-15 and IA-16 • Building IA-51	RFA	1992	SWMUs 2, 5, 7, and 18 are being addressed under the IRP as one unit. Remedial action is ongoing: air sparging for VOCs in groundwater and soil vapor extraction for VOCs in soil gas. Remedies are anticipated to operate through 2017. Five-year review was completed in September 2016.	PCE, solvents, and petroleum hydrocarbons in groundwater and soil
		RFA Confirmation Study	1997		
		SWMUs transferred to IRP	After 1997		
		SI	2005		
		Draft final FS	2005		
		Treatability study	2007		
		FS	2008		
		ROD	2010		
		Five-year review	2016		
		Remedial action	In progress		
22	Building 7SH5 and Main Magazine Area	IAS	1983	Proposed Plan for site remediation involves LUCs to limit exposure to arsenic in soil. NTCRA for endrin-contaminated soil was completed in 2013. Bioavailability study for arsenic is in progress and anticipated to be complete in 2017, with an FS addendum and ROD to follow.	VOCs; arsenic in surface soil; endrin in surface soil (in one area)
		Inland Area SI	1993		
		RI	1998, 2006		
		FS	2008		
		Proposed Plan	2010		
		NTCRA (endrin-contaminated soil)	2013		
		Bioavailability study	In progress		
22A	Magazine Groups 1 through 5	IAS	1983	Proposed Plan consists of NFA at Magazine Groups 1, 2, and 4 and LUCs restricting residential development at Magazine Groups 3 and 5 to address arsenic. ROD was signed in 2015. LUC-RD was completed in 2016. Five-year review was completed in September 2016.	Arsenic in surface soil
		RI	2007 to 2009		
		FS	2011		
		Proposed Plan	2012		
		ROD	2015		
		LUC-RD	2016		
		Five-year review	2016		

Table 3.8-1 Summary of Environmental Restoration Program Sites

Site Number	ER Program Site Name	Program Activity		Current Status	Constituents of Concern
		Key Activity	Date Completed		
29	Building IA-25	SI	1989	Building IA-25 was known as Missile Component Maintenance. NTCRA for groundwater using biotic and abiotic techniques is being performed from 2013 to 2017. Follow-on groundwater investigation is planned for 2017. Revised FS is anticipated in 2018. ROD, remedial action, and long-term monitoring will be subsequently completed.	Chlorinated hydrocarbons (primarily TCE) in soil gas and groundwater; lead in surface soil due to lead-based paint associated with the building
		HHRA	1999		
		ERA	2001		
		Draft final FS	2003		
		Additional RI activities	2011		
		FS	2013		
		NTCRA (VOCs in groundwater)	In progress		
41	IA-100 Storage Areas	SI	2013	NFA recommended in 2013 for two areas (IA-100 South and the Area North of IA-100). IA-100 North area is being studied primarily for PAHs in soil. NTCRA for MEC in soil is planned for 2017-2018 for various areas within IA-100.	Arsenic and PAHs in surface soil; MEC in soil
		NFA recommended for two of the four areas (IA-100 South and the Area North of IA-100)	2013		
		Data gap investigation	In progress		
		EE/CA	In progress		
		Action memorandum for NTCRA (MEC in soil)	In progress		

Table 3.8-1 Summary of Environmental Restoration Program Sites

Site Number	ER Program Site Name	Program Activity		Current Status	Constituents of Concern
		Key Activity	Date Completed		
42	Building 81	AOPI SI	2013	Building 81 was the Ordnance Maintenance and Test Building. Leach field and associated piping are being investigated for VOCs, particularly TCE, disposed of via building sanitary system. RI for soil, soil gas, and groundwater is in progress and anticipated to be completed in 2018.	VOCs (especially TCE) in soil, soil gas, and groundwater
		RI	In progress		
Closed or No Further Action IRP Sites					
14	Kinne Boulevard Wells	IAS	1983	Site consisted of three closed petroleum production wells, only one of which is currently on former NWS Concord property. Navy recommended NFA in 1993 and submitted letter to DTSC in 1995 requesting site closure.	Fuel oil
		Inland Area SI	1993		
		NFA recommended	1993		
16	Black Pit at Red Rock	IAS	1983	NFA recommended in 1995 and again in 2009 after two different SIs.	Chemicals and metals in soil
		SI	1995		
		NFA recommended	1995		
		Included in MMRP PA, which recommended an SI	2007		
		SI	2009		
		NFA recommended	2010		

Table 3.8-1 Summary of Environmental Restoration Program Sites

Site Number	ER Program Site Name	Program Activity		Current Status	Constituents of Concern
		Key Activity	Date Completed		
17	Building IA-24	IAS	1983	Building IA-24 was the Forklift Maintenance and Storage building. 2005 ROD recommended NFA. EPA, DTSC, and RWQCB approved the NFA ROD.	Metals, fuel and oil constituents
		Inland Area SI	1993		
		RI	1995		
		NFA ROD	2005		
18	Building IA-25	IAS	1983	1983 IAS report recommended NFA for IRP Site 18, a potential burn pit and solvent disposal area at Building IA-25 (Missile Component Maintenance). Site was later re-investigated under a 2013 SI due to an area of disturbed soil and was identified as AOPI Building IA-25 Outfeature; the SI found no evidence of a burn pit/solvent disposal area, and NFA was again recommended.	IRP Site 18: paints, solvents Building IA-25 Outfeature: debris, MEC, munitions constituents, metals, VOCs
		NFA recommended	1983		
AOPI	Building IA-25 Outfeature	PA	2010		
		AOPI SI	2013		
		NFA recommended	2013		
20	Old Homestead, Seal Creek	IAS	1983	1983 IAS report recommended NFA, and no additional investigation was conducted.	Household debris; no hazardous materials identified
		NFA recommended	1983		
27	Buildings IA-20 and IA-36	Inland Area SI	1993	Building IA-20 was a chemical laboratory, and Building IA-36 was a boiler house. 2013 ROD recommended NFA. EPA, DTSC, and RWQCB approved the ROD.	VOCs, oils, pesticides (primarily chlordane); lead, mercury, Arochlor - 1248, and Arochlor-1254 in surface soil
		RI	1997		
		TCRA (metals and PCBs in soil)	2010		
		NFA ROD	2013		

Table 3.8-1 Summary of Environmental Restoration Program Sites

Site Number	ER Program Site Name	Program Activity		Current Status	Constituents of Concern
		Key Activity	Date Completed		
Military Munitions Response Program (MMRP) Sites					
Active MMRP Sites					
UXO 0001A (also known as IRP Site 24A, Pistol Firing Range)	Former Pistol Range	IAS	1983	NTCRA for metals, PAHs, and munitions debris in soil is in progress.	MEC, munitions debris, and munitions constituents (metals, PAHs) in soil
		Inland Area SI	1993		
		RI	1997		
		Transferred to MMRP			
		MMRP PA	2007		
		NTCRA (MEC, metals, and PAHs in soil)	In progress		
UXO 0009/ UXO 0003 (portions of site were formerly IRP Site 13, Burn Area)	Former Inland Burn Area/Railroad Sidings Excavation Area	IAS	1983	TCRA for buried and potentially explosive munitions, as well as removal of metals-contaminated soil, was completed in 2014. RI was finalized in 2014. FFS is in progress.	MEC and munitions constituents (metals, perchlorate) in soil and groundwater; napalm and fuel oil constituents in soil
		Inland Area SI	1993		
		RI	1997		
		Removal action (napalm-contaminated soil)	1997		
		RI re-initiated	2005		
		Site 13 transferred to MMRP; Railroad Sidings Excavation Area added to MMRP			
		MMRP PA	2007		
		TCRA (MEC and metals in soil)	2014		
		RI	2014		
		FFS	In progress		

Table 3.8-1 Summary of Environmental Restoration Program Sites

Site Number	ER Program Site Name	Program Activity		Current Status	Constituents of Concern
		Key Activity	Date Completed		
UXO 0010 (formerly IRP Site 23B)	Eagle's Nest EOD	IAS	1983	TCRA for MEC in soil was completed in 2015. RI/FFS is in progress.	MEC and munitions constituents (including lead) in soil
		Inland Area SI	1993		
		NFA recommended	1993		
		Transferred to MMRP			
		MMRP PA	2007		
		SI	2009		
		TCRA (MEC in soil)	2015		
		RI/FFS	In progress		
UXO 0011	Guam Way	AOPI SI	2013	TCRA for debris, commingled potentially explosive material, and contaminated soil was completed in 2015. RI/FS for soil and groundwater is in progress.	MEC and munitions constituents (lead) in soil; petroleum constituents in soil and groundwater; chlorinated solvents in groundwater
		TCRA (debris and MEC in soil)	2015		
		RI/FS	In progress		
UXO 0012	Bermed Area	Supplemental PA	2008	RI consisting of a munitions and soil investigation was completed in 2014. FFS is in progress.	MEC in soil
		AOPI SI	2013		
		RI	2014		
		FFS	In progress		
UXO 0013	Rocket Practice Area	PA/SI	In progress	PA/SI is in progress.	MEC in surface and subsurface soil
Closed or No Further Action MMRP Sites					
UXO 0005	Burn Area Near HE-5	MMRP PA	2007	Navy recommended NFA based on results of 2009 SI.	MEC and munitions constituents in soil and groundwater
		SI	2009		
		NFA recommended	2010		
None (formerly IRP Site 23A)	Inland Area EOD	IAS	1983	NFA recommended by 1993 Inland Area SI report. Site subsequently moved to the MMRP. Navy recommended NFA in 2009 based on 2007 PA and other reviews.	MEC and munitions constituents in soil
		Inland Area SI	1993		
		NFA recommended	1993		
		Transferred to MMRP			
		MMRP PA	2007		
		NFA recommended	2009		

Table 3.8-1 Summary of Environmental Restoration Program Sites

Site Number	ER Program Site Name	Program Activity		Current Status	Constituents of Concern
		Key Activity	Date Completed		
None (formerly IRP Site 24B, Aircraft Firing Range)	Bore Sighting Range	IAS	1983	NFA recommended by 1993 Inland Area SI report. Site subsequently moved to the MMRP. Navy recommended NFA based on 2007 PA.	MEC and munitions constituents in soil
		Inland Area SI	1993		
		NFA recommended	1993		
		Transferred to MMRP			
		MMRP PA	2007		
		NFA recommended	2007		
Other Sites and Investigations					
Areas of Potential Interest					
AOPI	Building IA-27	PA	2010	2013 SI found no evidence of historical disposal, and NFA was recommended.	Debris in disposal area
		AOPI SI	2013		
		NFA recommended	2013		
AOPI	Building 93	NFA recommended from RCRA investigations for Building 93 (SWMU 24)	1997	The AOPI site, comprising Building 93, Building 420, and associated suspected disposal areas, has been investigated numerous times over the years. NFA was recommended in 2013 based on AOPI SI.	Chemicals (e.g., VOCs), MEC, and munitions constituents in soil and groundwater and in Building 93 itself
		Geophysical investigation	2003		
		ESR investigations	2005		
		Explosive hazard evaluation, Building 93	2007		
		AOPI SI	2013		
		NFA recommended	2013		
AOPI	Northern Railroad Excavation A, B, and C	PA	2010	2013 SI found no evidence of historical disposal or munitions activities in the disposal/excavation areas, and NFA was recommended.	MEC in disposal/excavation area
		AOPI SI	2013		
		NFA recommended	2013		

Table 3.8-1 Summary of Environmental Restoration Program Sites

Site Number	ER Program Site Name	Program Activity		Current Status	Constituents of Concern
		Key Activity	Date Completed		
AOPI	Unocal Pipeline Site	Unocal submitted closure report for SWMU 30	1991	Investigated for petroleum under RCRA following 1989 release of crude oil (see Section 3.8.4). Site recommended for NFA based on 2013 AOPI SI for MEC.	MEC in soil
		AOPI SI	2013		
		NFA recommended	2013		
Preliminary Assessment/Re-verification Investigation Sites					
15	Railroad Classification Yard	IAS	1983	Broken vials of the rodenticide methyl bromide found during the IAS were removed, and the 1983 IAS report recommended NFA. PA/RVI conducted 2013-2016 to reevaluate previous findings; report recommended NFA.	Methyl bromide, MEC, and munitions constituents
		NFA recommended	1983		
		PA/RVI	2016		
UXO 0002	Borrow/Dredge Fill Area	MMRP PA	2007	NFA previously recommended based on 2007 PA. PA/RVI conducted 2013-2016 to reevaluate previous findings; report recommended additional soil sampling to determine if site can be recommended for NFA.	Chemicals and metals in soil; MEC
		NFA recommended	2007		
		PA/RVI	2016		
		Additional soil sampling	In progress		
UXO 0004	Red Rock Disposal Area	MMRP PA	2007	NFA previously recommended based on 2007 PA. PA/RVI conducted 2013-2016 to reevaluate previous findings; report recommended further evaluation of the site. RI with fieldwork is scheduled to be conducted in 2018.	Chemicals and metals in soil and groundwater; MEC
		NFA recommended	2007		
		PA/RVI	2016		
		RI	In progress		

Table 3.8-1 Summary of Environmental Restoration Program Sites

Site Number	ER Program Site Name	Program Activity		Current Status	Constituents of Concern
		Key Activity	Date Completed		
UXO 0006 (formerly IRP Site 19, Seal Creek)	Seal Creek Disposal Area	IAS	1983	Potential construction material at disposal site. Some previous investigations recommended NFA. PA/RVI conducted 2013-2016 to reevaluate previous findings; report recommended NFA.	Chemicals in soil and soil gas; MEC
		Inland Area SI	1993		
		Geophysical Survey	2003		
		Transferred to MMRP			
		MMRP PA	2007		
		NFA recommended	2007		
		PA/RVI	2016		
None	C-3 Disposal Area	Geophysical survey	2003	NFA recommended based on 2003 geophysical survey. PA/RVI conducted 2013-2016 to reevaluate previous findings; report recommended NFA.	Chemicals and metals in soil
		NFA recommended	2003		
		PA/RVI	2016		
None	Nitens Plantation	Geophysical survey	2003	Potential construction-material disposal site recommended for NFA based on 2003 geophysical survey. PA/RVI conducted 2013-2016 to reevaluate previous findings; report recommended NFA.	Debris in soil
		NFA recommended	2003		
		PA/RVI	2016		
None	Runway Apron Fuel Pit/Septic System Area	Geophysical survey	2003	PA/RVI conducted 2013-2016 to investigate the fuel pit, reevaluate previous findings for the septic system area, and investigate the potential for MEC. Report recommended no further investigation for soil gas or groundwater at the immediate site, and further investigation for MEC in area south of runway apron. SI fieldwork for Runway Debris Areas to be conducted in 2017.	Chemicals in soil and groundwater; MEC
		Septic system and soil investigation	2005		
		PA/RVI	2016		
		SI	In progress		

Table 3.8-1 Summary of Environmental Restoration Program Sites

Site Number	ER Program Site Name	Program Activity		Current Status	Constituents of Concern
		Key Activity	Date Completed		
None	Southern Railroad Excavations T10, T11, and T12	Geophysical survey	2003	Potential construction material at disposal site. NFA recommended based on 2003 geophysical survey. PA/RVI conducted 2013-2016 to reevaluate previous findings; report recommended NFA.	Chemicals and metals in soil; MEC
		NFA recommended	2003		
		PA/RVI	2016		

Source: ChaduxTt 2011; City of Concord 2010; ECC-Insight LLC 2014; Ecology and Environment, Inc., 1983; Malcolm Pirnie, Inc., 2007; Navy April 2006, April 2010, July 2010, January 2012, November 16, 2012, November 2012, March 2013, November 2016; Restoration Advisory Board 2012; Tetra Tech, Inc., 2013; Tetra Tech EM, Inc., 2013; Trevet 2012; TriEco-Tt 2012, 2016a.

Note: Additional information concerning the sites summarized in this table is included in the document text.

Key:

AOPI = area of potential interest
DTSC = Department of Toxic Substances Control
EE/CA = engineering evaluation/cost analysis
EOD = explosive ordnance disposal
ERA = ecological risk assessment
ESR = environmental status report
FS = feasibility study
FFS = focused feasibility study
IAS = initial assessment study
IRP = Installation Restoration Program
HHRA = human health risk assessment
LUC = land use control
LUC-RD = land use control remedial design
MEC = munitions and explosives of concern
MMRP = Military Munitions Response Program
MPPEH = material potentially presenting an explosive hazard
NFA = no further action
NTCRA = non-time-critical removal action
PA = preliminary assessment
PA/RVI = preliminary assessment/re-verification investigation
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
PCE = tetrachloroethylene (aka perchloroethylene)
RI = remedial investigation
ROD = record of decision
RWQCB = Regional Water Quality Control Board
SI = site inspection or site investigation
SWMU = solid waste management unit
TCE = trichloroethylene
TCRA = time-critical removal action
VOC = volatile organic compound

- **SWMU 5, Buildings IA-12 and 269.** Building IA-12 was built in the mid-1940s and functioned as the locomotive repair shop. The building is no longer used for industrial activities and was steam-cleaned and emptied of all equipment in 2002 and 2003. A waste oil UST, aboveground oil supply tanks, and a waste oil sump were originally associated with the building and have been removed. At one time, batteries were maintained and recharged at the building, and a grease and sand trap were inside the building.

  Building 269, located 60 feet west of Building IA-12, was constructed in the 1970s as a locomotive and rail car steam-cleaning facility, to replace the one at Building IA-51 (see SWMU 18). A steam-cleaning area was constructed in 1976 to collect oily wastes and process them in an oil/water separator located 5 feet west of the area.

- **SWMU 7, Buildings IA-15 and IA-16.** Building IA-15 consisted of a metals shop, machine shop, welding shop, forge shop, offices, and tool storage area in the eastern part of the building and an automotive repair shop in the western part of the building.

  Building IA-16 was the painting shop for NWS Concord. Four fuel USTs (called the IA-17 USTs) were originally located between Buildings IA-16 and IA-12 and were removed in January 1999 (also see Section 3.8.6.2).

- **SWMU 18, Building IA-51.** SWMU 18 consists of Building IA-51 and a locomotive turntable. Building IA-51 was built in the 1940s for use as a tire maintenance shop and steam-cleaning facility for locomotives and vehicles. The steam-cleaning facility was deactivated in the mid-1970s when the steam-cleaning facility at Building 269 (part of SWMU 5) became operational.

Site 22, Building 7SH5 and Main Magazine Area

Site 22, located in the southwestern part of the Inland Area, is a 531-acre site consisting of grasslands, 13 buildings, and 118 bunkers (magazines) that were built in 1944 to store munitions.

Building 7SH5 was built in 1944 to store inert equipment and was used from 1957 through the mid-1970s as an environmental and vibration testing area for missile components. From the mid-1970s to mid-1990s, maintenance operations such as paint stripping, cleaning, and painting missile wings and fins were conducted in the building. The bunkers and magazines have been empty and sealed since 2001, and the site is used for cattle grazing. The first RI, conducted in the late 1990s, did not find significant contamination from past operations at Building 7SH5 (Navy April 2006).

Elevated levels of arsenic have been investigated in surface soils in open grassland areas at Site 22 and have been attributed to herbicide use. A 2005 Agency for Toxic Substances and Disease Registry report concluded that the arsenic levels would not be expected to affect the health of nearby residents (Navy April 2006). An RI/FS was completed in 2008. The Navy's proposed plan for site remediation involves the use of LUCs to limit exposure to arsenic in surface soil that poses a risk to human health (residential use) and excavation of surface soil in one 500-square-foot portion of Site 22 (near magazine 6PC33) where the soil was contaminated with endrin (an insecticide) at levels that pose a risk to wildlife (Navy April 2010). A non-time-critical removal action for the endrin-contaminated soil was completed in 2013, and a bioavailability study for arsenic was in progress as of 2016 (Navy November 2016). Following the bioavailability study, an FS addendum and ROD will be completed.

Site 22A, Magazine Groups 1 through 5

Site 22A encompasses 504 acres and 103 magazines grouped into five separate areas located east of Site 22 and along the center of the Inland Area. The five areas consist of:

- Group 1: 2.4 acres, 6 magazines
- Group 2: 154 acres, 39 magazines
- Group 3: 39 acres, 18 magazines
- Group 4: 124 acres, 20 magazines
- Group 5: 185 acres, 20 magazines

Similar to Site 22, the ammunition magazines were built in the 1940s and have been empty and sealed since 2001. The RI/FS studied arsenic in surface soil that has been attributed to herbicide use. The FS was completed in 2011. The Navy's proposed plan for site remediation consists of no further action at Magazine Groups 1, 2, and 4 because concentrations of arsenic in surface soil do not pose unacceptable risk to human health and the environment, and LUCs at Magazine Groups 3 and 5 to address arsenic contamination in surface soil that may pose potential risk to future residents (Navy November 2012). The ROD was signed in 2015, the LUC-RD was completed in 2016, and a five-year review was completed in September 2016.

Site 29, Building IA-25

Site 29, consisting of Building IA-25 (Missile Component Maintenance), is located just northwest of Site 22. Building IA-25 was constructed in 1945 and is located within an earthen berm. The building was used from the mid-1940s to the 1980s to manufacture and test military explosives. The building also included a paint spray booth that was renovated in the late 1970s to be used to rework explosives. Site 29 is being investigated for chlorinated hydrocarbons (primarily trichloroethylene [TCE]) in soil gas and groundwater. Lead in soil has been identified from LBP associated with the building (Accord MACTEC 8A JV and Brady 2013). At one time, Site 29 also included SWMU 13, which consisted of the septic system and a storm drain outfall that were investigated for similar contaminants. SWMU 13 was remediated under a RCRA corrective action in 1997 (see Section 3.8.4) and is no longer part of IRP Site 29.

A 1999 human health risk assessment conducted for Site 29 indicated a potential risk to humans if the site were used for residential purposes, and a 2001 ecological risk assessment indicated a potential risk to animals from ingestion of contaminated soil. The chlorinated hydrocarbons in groundwater were found in 2005. An RI was performed (most recent RI activities were completed in 2011) to re-confirm the nature and extent of contamination previously identified in documentation produced during operational status. The FS was finalized in 2013. A non-time-critical removal action for VOCs in groundwater using biotic and abiotic techniques is being performed, with anticipated completion by 2017 (Navy April 2006, November 2016). The next planned work will be a follow-on groundwater investigation in 2017 and a revised FS, following the non-time-critical removal action, in 2018 (Navy November 2016). The lead in soil beneath the building also is being investigated.

Site 41, IA-100 Storage Areas

The 10-acre IA-100 Storage Areas, located near Kinne Boulevard just east of the Site 22 Main Magazine Area, consist of four separate investigation areas. The IA-100 North and IA-100 South areas were used for general maintenance and to store materials, including pesticides and arsenic-containing treated wood, from the 1950s until 2005. The area called Area West of IA-100 was used to unload cargo from the nearby railroad and has been observed to contain munitions-related debris and items in surface and subsurface areas. The area called Area North of IA-100 was used for storage.

An SI was completed in 2013, and a data gap investigation, engineering evaluation/cost analysis (EE/CA), and action memorandum were completed in 2014. Some surface and subsurface munitions items at the Area West of IA-100 were removed as part of the data gap investigation. Site 41 is being

investigated for arsenic and polycyclic aromatic hydrocarbons (PAHs) in soil at the IA-100 North area, and for MEC in soil at various investigation areas. The SI report recommended no further action for the IA-100 South area and the Area North of IA-100 (ECC-Insight LLC 2014). The next planned work will be an EE/CA, action memorandum, and non-time-critical removal action for MEC, planned for 2017-2018 (Navy November 2016).

Site 42, Building 81

Building 81 (Ordnance Maintenance and Test Building), located east of the Site 22A Group 2 Magazine Area, was used for maintaining ordnance and for testing fuzes and hydraulic fluids. The building was built in 1959 and operations in it ceased in 2001. Septic tanks associated with Building 81 were previously identified as SWMU 22 and addressed by that program (see Section 3.8.4).

An SI was completed in 2013. The leach field and associated piping are being investigated for VOCs, particularly TCE, that were identified in soil gas during the SI. The VOCs are believed to have been disposed of via the building sanitary system and potentially exist in soil. An RI for soil, soil gas, and groundwater is anticipated to be completed in 2018 (Navy November 2016; Tetra Tech, Inc. 2013).

3.8.3.1.2 Closed or No Further Action IRP Sites

Site 14, Kinne Boulevard Wells

Site 14 originally consisted of three petroleum production wells near Kinne Boulevard, at the northwestern end of the Inland Area. Two of these wells lie within the portion of the Inland Area that was transferred to the U.S. Army in 2008. The remaining well (called the "south" well) is on the boundary of the former NWS Concord property. The Kinne Boulevard wells were used by the Navy between 1928 and the 1960s, and then closed by the Navy in 1995. The Navy recommended no further action for the site in 1993 and submitted a letter to the DTSC in 1995 requesting site closure (Navy April 2006).

Site 16, Black Pit at Red Rock

The Black Pit at Red Rock is located just north of Site 22, about 100 yards southeast of Mt. Diablo Creek. The pit (15 feet long, 10 feet wide, and 5 feet deep) was observed during the IAS near a disposal area and a clean fill borrow area and contained noticeably black soil. Sample analysis at the time indicated that the pit was used for the disposal of paints, pigments, and other chemicals. An SI conducted at the pit in 1995 did not find constituents of concern, and no further action was recommended at that time (Navy April 2006). The pit was later addressed in the MMRP PA (completed in 2007 see [Section 3.8.3.2]), when the pit and the nearby disposal area were investigated for potential MEC and munitions constituents. The 2007 MMRP PA report concluded that the pit was a suspected MEC area and recommended an SI (Malcolm Pirnie, Inc. 2007). An SI was conducted in 2009, as a result of which the Black Pit at Red Rock site was again recommended for no further action (Tetra Tech EM, Inc. 2010). The EPA and DTSC concurred with this finding (EPA 2010; DTSC 2010). The Black Pit at Red Rock is currently a separate site from the nearby disposal and soil-borrow areas that collectively comprise the site now known as MMRP site UXO 0004, Red Rock Disposal Area (see Section 3.8.3.3.2).

Site 17, Building IA-24

Building IA-24 (Forklift Maintenance and Storage) is located on the eastern side of Kinne Boulevard, approximately between Site 22 and Site 22A Magazine Group 3. Building IA-24 was used from the 1950s through 1988 for heavy equipment maintenance, cleaning, and battery recharging. A diesel UST was removed and replaced with an AST in 1997, which was subsequently removed in 2004. The building is not used for Navy operations but is used by cattle-ranching lease holders to store hay bales. The RI performed in the mid-1990s found no constituents of concern above levels of concern at the site, and the ROD (2005) recommended no further action. The EPA, DTSC, and RWQCB approved the ROD (Navy April 2006).

Site 18, Building IA-25 (Including the Area of Potential Interest Building IA-25 Outfeature)

Site 18 is located at Building IA-25 (Missile Component Maintenance) and refers to a potential burn pit and solvent disposal area. Paints and solvents were reportedly burned and disposed of in the area. The 1983 IAS report recommended no further action at that time (Ecology and Environment, Inc. 1983). The potential burn pit and solvent disposal area was later re-investigated as an Area of Potential Interest (AOPI) Building IA-25 outfeature under a 2013 AOPI SI due to an area of disturbed soil and uncertainties surrounding the location of IRP Site 18. The SI investigated the site for MEC, munitions constituents, metals, and VOCs. The 2013 SI did not find any evidence of a burn pit or solvent disposal area, and the site was again recommended for no further action (Tetra Tech, Inc. 2013).

Site 20, Old Homestead, Seal Creek

Site 20, located approximately between Site 22 and Site 22A Magazine Group 4, is the site of household debris that was noted in the 1983 IAS. The debris was disposed of by local ranchers prior to the Navy obtaining the property in 1943. No hazardous materials were disposed of at the site. The IAS report recommended no further action at that time, and no additional investigation was conducted at the site (Navy April 2006).

Site 27, Buildings IA-20 and IA-36

Site 27 consists of 0.4 acre located near the northern portion of the Inland Area. Building IA-20 (Chemical Laboratory) was constructed in 1947 and used from 1964 to the mid-1990s as a chemical and materials testing laboratory. The laboratory was used to test oils and hydraulic fluids, develop new weapons test methods, and evaluate characteristics of ordnance. Building IA-36 (Boiler House) is a former boiler house constructed in 1946. A diesel UST located at Building IA-36 was removed in 1997. Neither building has been used since 1999. Site 27 was investigated for VOCs, oils, metals, pesticides (primarily chlordane), and PCBs. Chlordane was found at levels within EPA standards for industrial areas but above EPA standards for residential areas. A time-critical removal action for metals and PCBs in soil was completed in 2010 to reduce the risk to wildlife. The Navy proposed no further action for Site 27, which is eligible for unrestricted use because it does not pose unacceptable risks to human health (under either industrial or residential scenarios) or the environment (Navy April 2006, January 2012). The ROD detailing no further action for the site was finalized in 2013. The EPA, DTSC, and RWQCB approved the ROD.

3.8.3.2 Military Munitions Response Program Sites

A PA was completed of the Inland Area in 2007 for areas containing MEC or munitions constituents (Malcolm Pirnie, Inc. 2007). As a result of the PA and additional reviews and visual surveys, further site investigation was recommended for certain sites and no further action for others. Some of the sites were moved to the MMRP from the IRP. The MMRP sites designated at the former NWS Concord are in various stages of investigation. Some sites have been closed or recommended for no further action. The MMRP sites and site investigation history are described below. Table 3.8-1 summarizes the sites, past actions associated with them, and their current status, including certain anticipated next steps. The sites are shown on Figure 3.8-1.

3.8.3.2.1 Active MMRP Sites

UXO 0001A, Former Pistol Range

The 1.5-acre former pistol range, located between Site 22A Magazine Groups 3 and 4, was active from the early 1950s to 2005 and is currently inactive. It was originally investigated as IRP Site 24A, Pistol Firing Range, in the IAS, SI, and RI and was subsequently moved to the MMRP. The current site encompasses 6.4 acres. Previous IRP investigations found elevated levels of metals (mostly lead) in soil,

PAHs in soil (from creosote-treated wood used to support the target berm) at levels above screening values, and potentially explosive munitions debris (Navy April 2006). A non-time-critical removal action for MEC, metals, and PAHs in soil was in progress as of 2016 to reduce human and ecological risks (Trevet 2012; Navy November 2016).

UXO 0009/UXO 0003, Former Inland Burn Area/Railroad Sidings Excavation Area

The Former Inland Burn Area/Railroad Sidings Excavation Area is an approximately 50-acre site located west of Willow Pass Road. The majority of the site (28 acres) was formerly investigated as IRP Site 13, Burn Area, and was moved to the MMRP to complete the investigation as MMRP identifier UXO 0009. The Burn Area was later combined with the adjoining 22-acre UXO 0003 Railroad Sidings Excavation Area to create the present combined Former Inland Burn Area/Railroad Sidings Excavation Area site.

Portions of the original Burn Area site were used from the late 1940s to approximately 1974 to destroy live ordnance by burning it in trenches and natural gullies. The ordnance included flares, smoke chemicals, thermite grenades, small arms ammunition, and powder and loose material cleaned from ammunition ships. The area was also briefly used as a firefighting training area, where napalm and fuel oil were burned, and for target practice using .50-caliber machine guns. A removal action for napalm-contaminated soil was conducted in 1997. Low concentrations of perchlorate (a rocket fuel component) have been found in groundwater at the site, below California public health goals (Navy April 2006; November 16, 2012). The Railroad Sidings Excavation Area is located in the northern portion of the combined site. The Railroad Sidings Excavation Area was similarly used from the 1940s to the 1970s as an open burning and open detonation area, and the contaminants and munitions constituents it contains are similar to those of the original Burn Area site (Navy April 2006).

A time-critical removal action for buried and potentially explosive munitions, as well as removal of metals-contaminated soil, was completed in 2014. An RI also was completed in 2014. A Focused FS (FFS) is under way at the site to investigate chemical constituents (Navy November 16, 2012; November 2016).

UXO 0010, Eagle's Nest Explosive Ordnance Disposal (EOD)

The 2.4-acre Eagle's Nest EOD site is located east of Site 22A Magazine Group 3 and was used from approximately 1959 to the 1970s for controlled explosions and open burning/open detonation. It was originally investigated as IRP Site 23B. No further action was recommended for Site 23B in 1993, based on the results of the Inland Area SI, which found a lack of explosive chemicals in soil samples and little physical evidence that munitions had been detonated in the area. The site was subsequently moved to the MMRP because of its historic use for EOD operations and because lead had been detected in soil at concentrations greater than reference levels of concern (Navy April 2006). A time-critical removal action for MEC in soil was completed in 2015 (Navy November 2016) and an RI/FFS for MEC and munitions constituents in soil is in progress.

UXO 0011, Guam Way

The 3-acre Guam Way site, located on Guam Way Road northwest of Willow Pass Road, is a disposal site that may also have been used for burning debris and trash. Site investigations identified buried trash and debris commingled with potentially explosive material (intact bomb fuzes), lead in soil at levels that could pose unacceptable risks to future residents, petroleum constituents in soil and groundwater, and chlorinated solvents in soil gas and groundwater. The Guam Way site was investigated as an AOPI in an SI that was completed in 2013. A time-critical removal action for the debris, commingled potentially explosive material, and contaminated soil was completed in 2015, and an RI/FS for soil and groundwater is in progress (Navy November 2016; TriEco-Tt 2012).

UXO 0012, Bermed Area

The approximately 15.8-acre Bermed Area is located in the southeastern portion of the installation, adjacent to the closed Inland Area EOD site (which is discussed in Section 3.8.3.2.2 below). The history of the Bermed Area is uncertain, but it is thought to have been confused over time with the history of the Inland Area EOD site, at which no MEC has been found. The Bermed Area was likely used from the 1940s to 1960s for EOD operations. A supplemental PA was completed in 2008, and an AOPI SI was completed in 2013. During the subsurface exploration conducted of the Bermed Area in 2012 as part of the SI, potentially explosive munitions (such as variable timed fuzes) and munitions debris were found in exploratory trenches. An RI, consisting of a munitions and soil investigation, was completed in 2014 (Navy November 2016; Tetra Tech, Inc., 2013), and an FFS is in progress.

UXO 0013, Rocket Practice Area

The approximately 44-acre Rocket Practice Area, located just east of Site 22A Magazine Group 4, was used as a rocket practice area and range. Little historical information is available for the site, although it is presumed to have been used in the 1950s and 1960s based on the types of practice rockets identified at the site. As a result of the identification of surface munitions (parts from 3.5-inch practice rockets) during a site walkover performed in 2012, some shallow munitions removals were performed in 2013. The PA/SI to investigate surface and subsurface MEC in soil is in progress (Environmental Cost Management, Inc. and Engineering Remediation Resources Group, Inc. 2013; Navy November 2016).

3.8.3.2.2 Closed or No Further Action MMRP Sites

UXO 0005, Burn Area Near HE-5

The 90-acre Burn Area Near HE-5 site is located near magazines HE-5 and HE-60 at the southeastern end of the Inland Area. The area was used from 1966 to 1978 for maneuvers and open burning/open detonation. The types of munitions thought to be destroyed in the area included bulk propellants, bulk explosives, pyrotechnics, small arms, and grenades. The Navy recommended no further action for the site, based on the results of a 2009 SI (Tetra Tech EM, Inc. 2010). The EPA and DTSC concurred with this finding (EPA 2010; DTSC 2010).

Inland Area EOD

The 41-acre Inland Area EOD site, located at the southeastern end of the Inland Area, was originally investigated as IRP Site 23A. The site was used from the late 1940s until about 1959 for controlled explosions and open burning/open detonation. No further action was recommended for Site 23A in 1993, based on the results of the Inland Area SI, which found a lack of ordnance-related debris and explosives compounds in soil samples. The site was subsequently moved to the MMRP because of its historic use for EOD operations (Navy April 2006). The Navy recommended no further action for the site in 2009, based on the results of the 2007 PA and other reviews.

Bore Sighting Range

The 5.3-acre Bore Sighting Range, located in the westernmost portion of the Inland Area near the old airfield, was originally investigated as IRP Site 24B, Aircraft Firing Range. It is the location of Building IA-56, which was used from 1944 to 1946 as an aircraft target range for the bore-sighting of wing guns. No further action was recommended for Site 24B in 1993, based on the results of the Inland Area SI, which did not find projectiles, metal fragments, or elevated metals concentrations in soil from a berm at the site. The site was subsequently moved to the MMRP because of its limited historic use as a firing range and because the backstop berm used at the target range is still intact. The Navy has recommended no further action for the site based on the 2007 PA (Malcolm Pirnie, Inc. 2007; Navy April 2006).

3.8.3.3 Other Sites and Investigations

The Navy investigates other potential hazardous waste/material sites as necessary to determine whether such sites should be included in or re-categorized within the ER Program. The sites described below are shown on Figure 3.8-1. Table 3.8-1 summarizes the sites, past actions associated with them, and their current status, including anticipated next steps.

3.8.3.3.1 Areas of Potential Interest (AOPI)

Building IA-25 Outfeature is a closed AOPI that is discussed in Section 3.8.3.1.2 in connection with IRP Site 18, Building IA-25. Other AOPI sites are described below.

Building IA-27

Building IA-27, located just south of Site 22A Magazine Group 2, was built in 1945 and used as a carpentry shop before being used for administrative storage. It was vacated in 2001. The AOPI concerned a potential disposal area to the north of the building. An SI performed in 2013 did not find any evidence of a disposal area, and no further action was recommended (Tetra Tech, Inc., 2013). Septic tanks associated with Building IA-27 were previously identified as SWMU 14 and addressed by that program (see Section 3.8.4).

Building 93

The Building 93 AOPI is a 12-acre site in the southern portion of the installation that encompasses Building 93, Building 420, and a grassland area with a decommissioned septic tank and leach field. It encompasses portions of MMRP Site UXO 0006, Seal Creek Disposal Area, which is discussed in Section 3.8.3.3.2. Building 93 was originally investigated in the 1990s as SWMU 24 (see Section 3.8.4). Building 93 and associated suspected disposal areas have been investigated numerous times in the past due to the use of hazardous materials and storage of hazardous waste at the building, the potential for use/disposal of MEC and other materials, and reports of open burning/open detonation at the site. Building 420 historically contained paint booths and other maintenance areas. In its status as a recent AOPI, the Building 93 site was studied in 2012 for MEC, munitions constituents, and organic compounds in soil and groundwater. Although elevated TCE was detected in one groundwater sample, the SI report recommended no further action based on the location of the samples and the results of the human and ecological risk assessments (Tetra Tech EM, Inc., 2013).

Northern Railroad Excavation A, B, and C

The Northern Railroad Excavation A, B, and C AOPIs are located in the northwest portion of the former NWS Concord property, near other railroad sites and facilities. Northern Railroad Excavation A was thought to be a clean soil-borrow area, Northern Railroad Excavation B was thought to be an incomplete railroad revetment, and Northern Railroad Excavation C was thought to have been used for drainage or soil borrow or was an unfinished revetment. The AOPIs were investigated because open burning and open detonation had been documented in other incomplete railroad excavations at the Former Inland Burn Area (the Former Inland Burn Area is discussed in Section 3.8.3.2.1.) SIs completed in 2013 found no evidence of MEC or munitions constituents at the Northern Railroad Excavation A, B, or C AOPIs, and no further action was recommended (Tetra Tech, Inc., 2013; Tetra Tech EM, Inc., 2013).

Unocal Pipeline Site

The approximately 1-acre Unocal Pipeline Site is located in the western portion of the former NWS Concord. It contains an underground oil pipeline that was formerly owned by Unocal and is currently owned by ConocoPhillips. The site was originally investigated as SWMU 30 (see Section 3.8.4) as a result of a pipeline leak in 1989 that was repaired and cleaned up at that time. Because ammunition was discovered during that cleanup, site soil was investigated for MEC in a 2013 AOPI SI. No explosives

were found during the SI, and the site was recommended for no further action (Tetra Tech EM, Inc., 2013).

3.8.3.3.2 Preliminary Assessment/Re-verification Investigation Sites

The Navy conducted a preliminary assessment/re-verification investigation (PA/RVI) from 2013 to 2016 to 1) identify potential sites at the former NWS Concord through record and historical aerial photograph reviews that may have been overlooked in previous assessments, and 2) re-verify, through additional record reviews and field investigations, whether previous "no further action" recommendations for certain sites are appropriate or whether a response action is required. The PA is base-wide in scope. The RVI focused on eight sites, for which fieldwork was completed in 2015. The eight sites are briefly described below.

Site 15, Railroad Classification Yard

Site 15, located toward the northwestern end of the Inland Area adjacent to Mt. Diablo Creek, is the site of shell casings and broken vials of the rodenticide methyl bromide that were identified during the 1983 IAS. The vials of methyl bromide were removed, and the IAS report recommended no further action at that time (Navy April 2006). Because of the shell casings identified by the 1983 IAS, a walkover survey for MEC was conducted in 2007, but no further munitions were found. The PA/RVI was conducted to reevaluate previous findings and investigate the potential for MEC and munitions constituents at the site, especially in the berms surrounding the initial Site 15. The PA/RVI report recommended no further action (TriEco-Tt 2016a).

UXO 0002, Borrow/Dredge Fill Area

The approximately 30-acre Borrow/Dredge Fill Area, located west of Willow Pass Road, was used during the 1970s and 1980s to dispose of dredged material from the Contra Costa Canal and local creeks. The area consists of soil piles and trenches for which no evidence has been found of MEC or munitions scrap. The Navy recommended no further action for the site based on the 2007 PA and other reviews (Malcolm Pirnie, Inc., 2007; Navy April 2006). The PA/RVI was conducted to reevaluate previous findings and investigate the potential for chemicals and metals in soil and the potential for MEC. The site boundary for the PA/RVI differed somewhat from the initial UXO 0002 boundary (see Figure 3.8-1) The PA/RVI report recommended additional investigation and soil sampling (in progress) to determine if the site can be recommended for no further action (TriEco-Tt 2016a).

UXO 0004, Red Rock Disposal Area

The Red Rock Disposal Area, located near the northern edge of Site 22, was originally investigated as a 5.3-acre disposal site that was included in the MMRP based on installation fire department logs that suggested the area may have been used for open burning/open detonation of munitions. The 2007 PA addressed both the disposal area and associated IRP Site 16, the Black Pit at Red Rock. (The Black Pit at Red Rock is considered to be a separate site from the Red Rock Disposal Area and is discussed in Section 3.8.3.1.2.) The Navy recommended no further action for the Red Rock Disposal Area in 2007 based on the PA and other reviews, which concluded that the disposal area was not suspected to contain MEC (Malcolm Pirnie, Inc. 2007). The PA/RVI was conducted to reevaluate previous findings and investigate the potential for chemicals and munitions constituents in soil, soil gas, and groundwater and the potential for MEC. The PA/RVI addressed a larger 11-acre site, consisting of most of the original 5.3-acre disposal area and an adjacent 5.7-acre disposal area that were both used for the transfer of non-munitions trash and debris. The PA/RVI report recommended further evaluation of the Red Rock Disposal Area (TriEco-Tt 2016a), and an RI with fieldwork is scheduled to be conducted in 2018.

UXO 0006, Seal Creek Disposal Area

The approximately 9.2-acre Seal Creek Disposal Area, located near the southeastern end of Site 22, was originally investigated as IRP Site 19, Seal Creek, because of the presence of a mixed-debris fill area

containing solid wastes and two empty 55-gallon drums. The disposal area, located to the west of Building 93 and on the north bank of Seal Creek (Mt. Diablo Creek), operated from the 1950s to at least 1983. The 1983 IAS report recommended no further action, but the 1993 Inland Area SI report recommended removal of the wastes. A 2003 geophysical survey did not identify any anomalies for investigation. The site was subsequently moved to the MMRP based on installation fire department logs that suggested older landfills such as this site had been used for ordnance disposal. The 2007 PA investigated a 1.5-acre portion of the site and called it "Disposal Area – Seal Creek." The PA determined that the site was not expected to contain MEC or munitions constituents, and the Navy recommended no further action for the site at that time (Malcolm Pirnie, Inc., 2007). The PA/RVI was conducted to reevaluate previous findings and investigate the potential for chemicals in soil and soil gas and the potential for MEC. The PA/RVI addressed the larger 9.2-acre site, for which the report recommended no further action (TriEco-Tt 2016a).

C-3 Disposal Area

The approximately 2-acre C-3 Disposal Area is located adjacent to the Railroad Classification Yard, toward the northwestern end of the Inland Area. The site was recommended for no further action based on a 2003 geophysical survey that concluded that disposal occurred on the surface and buried wastes were likely not present. The PA/RVI was conducted to reevaluate previous findings and investigate the potential for chemicals and metals in soil. The PA/RVI report recommended no further action (TriEco-Tt 2016a).

Nitens Plantation

The approximately 2-acre Nitens Plantation site, located east of Building 93, is a potential disposal site for waste construction materials. The area had been marked in the past by dead trees. The site was recommended for no further action based on a 2003 geophysical survey. The PA/RVI was conducted to reevaluate previous findings and investigate the potential for disposal in the area. The PA/RVI report recommended no further action (TriEco-Tt 2016a).

Runway Apron Fuel Pit/Septic System Area

The approximately 6-acre Runway Apron Fuel Pit/Septic System Area is located in the former airport area in the westernmost portion of the Inland Area. The fuel pit was identified in a 2013 records search. The septic system is likely associated with former Building 122. The septic tank was not found during a 2003 geophysical survey. Soil investigations of the general area completed in 2005 did not find any soil contamination. Because the location of the septic tank was unknown at the time of the 2005 investigation, it was uncertain whether the soil investigations adequately characterized the septic system area. The PA/RVI was conducted to investigate the fuel pit and reevaluate previous findings for the septic system, including the potential for chemicals in soil and groundwater and the potential for MEC. The PA/RVI report concluded that no further investigation is recommended for soil gas or groundwater in the Runway Apron Fuel Pit/Septic System Area because there is no evidence of a release (TriEco-Tt 2016a). However, additional investigation for MEC is recommended in the area south of the concrete runway apron. That area will be investigated as part of an SI for the Runway Debris Areas, with SI fieldwork to be conducted in 2017.

Southern Railroad Excavations T10, T11, and T12

The approximately 1.2-acre site, located near other railroad sites in the northwest portion of the Inland Area, consists of incomplete railroad sidings that had been partially excavated and filled. The site was recommended for no further action based on a 2003 geophysical survey. The PA/RVI was conducted to reevaluate previous findings and investigate the potential for chemicals and metals in soil and the potential for MEC. The PA/RVI report recommended no further action (TriEco-Tt 2016a).

3.8.4 Solid Waste Management Unit Sites

This section presents the existing conditions for SWMU sites at the former NWS Concord. Under RCRA, the DTSC has identified and evaluated various SWMUs at the former NWS Concord for historical or potential releases of hazardous wastes to the environment and the potential need for corrective actions. SWMUs at the former NWS Concord include features such as septic systems and leach fields where hazardous chemicals might have collected, industrial buildings and areas, boilers, and certain USTs. Of the 37 SWMUs originally identified at the Inland Area, 33 have received a recommendation of no further action, and the other four were transferred to the IRP (see Section 3.8.3.1.1). The SWMUs identified for the Inland Area at NWS Concord are discussed briefly below. They are listed in Table E-1 and shown on Figure E-1 in Appendix E.

The SWMUs in the Inland Area were originally identified by a 1992 RCRA Facility Assessment (RFA), which identified 33 SWMUs. Of those 33, the DTSC recommended no further action for 14 SWMUs—3, 4, 6, 8, 9, 10, 11, 19, 21, 27, 28, 29, 31, and 32. Four additional SWMUs (51, 52, 53, and 54) were added to the program in the mid-1990s, and four other SWMUs (2, 5, 7, and 18) were transferred to the IRP in the late 1990s (see Section 3.8.3.1.1), leaving 19 SWMUs to be further assessed. An RFA confirmation study and selected RCRA Corrective Action Program activities were performed between 1995 and 1997 and led to the cleanup of several SWMUs, most notably many of the septic tanks. Most of the septic tanks did not contain hazardous materials and were cleaned as a maintenance measure and not as a RCRA corrective action. RCRA corrective actions were performed for the SWMU 13 septic tank and for pesticide-contaminated soil at SWMU 16 (CH2M Hill 1997). As a result of the RFA confirmation study and selected RCRA Corrective Action Program efforts, 15 more SWMUs were recommended for no further action—12, 13, 14, 15, 16, 17, 20, 22, 23, 24, 25, 51, 52, 53, and 54 (Navy April 2006).

Of the remaining four SWMUs, SWMU 1 was assessed by the RFA confirmation study but subsequently transferred to the UST program, where it received a recommendation of no further action. SWMUs 26 and 33 were evaluated and addressed under the UST program and also received a recommendation of no further action (City of Concord 2010). SWMU 30, which was a release of 84 gallons of crude oil from the Unocal pipeline in 1989, was cleaned up at that time. Unocal submitted a closure report to the water board in 1991 (Tetra Tech EM, Inc., 2013). The DTSC recommended in 1992 that a RCRA Facility Investigation be performed to confirm that soil and groundwater were not contaminated by residual petroleum constituents (DTSC 1992). The RWQCB issued a closure letter in 2016 recommending no further action for the release site (San Francisco Bay RWQCB 2016a). The site was recently investigated for MEC as an AOPI under the ER Program (see Section 3.8.3.3.1).

3.8.5 Basewide Historical Radiological Assessment

This section presents the existing conditions for potential radiological sites at the former NWS Concord. The Atomic Energy Commission (AEC, and its successor agency, the NRC) originally issued licenses to the Navy for the use of radioactive materials at NWS Concord. In 1985, the NRC granted permitting authority to the Navy under a Master Materials License, at which time five Naval Radioactive Materials Permits (NRMPs) were issued to NWS Concord. Those five NRMPs were terminated individually between 1990 and 2008. Historical radiological operations included:

- The use of X-ray machines and particle accelerators to examine weapons materials and components. The X-ray machines and particle accelerators emitted radiation when energized and did not themselves use radioactive material.
- The use of gamma radiography (using cobalt-60 or iridium-192 radioactive sources) and nuclear density gauges (using uranium-235 and californium-252 radioactive sources) to examine weapons materials and components. Although the nuclear density gauge itself

was used at the NWS Concord facility in Pittsburg, California, the radioactive sources were eventually stored at the Inland Area before being disposed of.

- The use of X-ray nondispersive spectroscopy systems (using iodine-125, americium-241, and polonium-210 radioactive sources) to examine materials and components.
- The use of gas chromatographs (using nickel-63 radioactive sources) for sample analysis.
- Repair and disposition of equipment containing radioluminescent dials or gauges (which usually contained radium-226). This work was not required to be conducted under a license or permit.
- Storage and examination of depleted uranium ammunition. Depleted uranium consists primarily of uranium-238.
- Storage of instrument calibrators.
- Storage and shipment of radioactive materials from other Navy facilities.
- Handling and disposition of various radioactive sources, materials, and wastes.
- Storage and maintenance of special weapons. The primary isotopes associated with special weapons are uranium-235, plutonium-239, and hydrogen-3 (tritium). For security reasons, the Navy does not confirm or deny the presence of special weapons at its facilities.

The Naval Sea Systems Command Detachment, Radiological Affairs Support Office (RASO), prepared a historical radiological assessment (HRA) for the Inland Area of the former NWS Concord in 2010 in support of CERCLA and the Navy ER Program (Naval Sea Systems Command 2010). The HRA satisfies the preliminary assessment step of the ER Program process (see Section 3.8.2.1) and is intended to identify areas potentially impacted from historical uses of radioactive material, the likelihood of residual contamination and contaminant migration, sites that need further action, and recommendations for future radiological investigations and remediation processes. The HRA consisted of a historical review and site reconnaissance and did not include current radiation surveys of the former NWS Concord.

After completing the HRA, the RASO concluded that 48 sites in the Inland Area might have been impacted from historical uses of radioactive material. The terminology of "impacted" and "non-impacted" was used in the HRA in accordance with the protocol of that assessment, which is NRC-driven. Designating a site as "impacted" does not confirm the presence of radioactive material but indicates that there is a possibility for residual radioactive contamination exceeding NRC's release standards. A non-impacted site is one where there is no reasonable possibility for residual radioactive contamination.

The 48 impacted sites identified by the HRA are summarized in Table 3.8-2 and shown on Figure 3.8-2; the sites consist of:

- Seven buildings:
  - Buildings IA-20, IA-21, IA-21A, and IA-22, which were evaluation laboratories
  - Building IA-58, X-Ray Building
  - Building 81, Ordnance Maintenance and Test Building (also called Weapons Maintenance Building), and
  - Building 87, Inert Storage Building;
- Six depleted uranium munitions storage magazines; and

- Thirty-five special weapons magazines.

The HRA concluded that the potential for contamination at each of the 48 impacted sites is "unlikely" and categorized the contamination potential for seven types of media at the sites. Surface soil, surface water, groundwater, and air were determined to have a contamination potential of "none" for all of the 48 sites. Subsurface soil and drainage systems were determined to have contamination potentials of "none" or "low" depending on the site. Structures were determined to have a contamination potential of "low" for all of the 48 sites (see Table 3.8-2). The RASO recommended that scoping surveys be conducted to further study media with a contamination potential of "low." Only routine constraints were recommended for future remedial activities at the impacted sites because the RASO noted that "it is anticipated that either no contamination or low concentrations of residual radioactive material will be identified." No evidence has been found that contaminants have migrated off base, and the HRA report did not recommend restricted access or emergency action for any impacted site (Naval Sea Systems Command 2010). Final status surveys of the 48 impacted sites were in progress as of 2014, and SI/Scoping Survey reports were in development as of 2016. The Navy is coordinating with appropriate federal and state agencies regarding final recommendations for these sites.

3.8.6 Other Hazardous Waste/Materials Management

This section presents the existing conditions for other hazardous wastes and materials the Navy is managing under various compliance programs during its ownership and occupancy of the former NWS Concord.

3.8.6.1 Hazardous Waste

Hazardous wastes generated at the Inland Area include routine wastes from maintenance, such as waste oils, chemicals, solvents, paint, antifreeze, cleaners, fluorescent light ballasts and bulbs, batteries, adhesives, and wood with creosote, as well as hazardous wastes generated from the ER Program. The NSW Concord Inland Area currently operates in large quantity generator status (EPA ID CA7170024528), which means it generates 1,000 kilograms (2,200 pounds) per month or more of hazardous waste. The Inland Area has one accumulation area (Building 433) and one satellite accumulation area (Building IA-8). The Navy has been a large-quantity generator for the past several years because of numerous CERCLA removal actions.

The installation no longer maintains RCRA Part B-permitted (DTSC-permitted) hazardous waste facilities, which were at one time used to treat photochemical/photoprocessing silver wastes, crush spent fluorescent light tubes (which contained mercury), and store hazardous wastes. One permitted facility at Building IA-22 was closed in 1999, and the remaining four permitted facilities at the Inland Area were closed in 2003. The DTSC acknowledged the closure of the five facilities at the Inland Area in a 2003 letter (Navy April 2006; DTSC 2003).

3.8.6.2 Underground Storage Tanks

Historically, 42 USTs were located in the Inland Area at NWS Concord. The USTs are summarized in Table E-2 in Appendix E. All of the USTs have been removed and have received determinations of no further action, closure, or both.

3.8.6.3 Aboveground Storage Tanks

Historically, 21 ASTs were located in the Inland Area at NWS Concord. The ASTs are summarized in Table E-2 in Appendix E. All of the ASTs have been removed and have received determinations of closure (Navy July 2014).

Table 3.8-2 Impacted Sites Identified by Historical Radiological Assessment

Impacted Site Designated by Historical Radiological Assessment	Radioactive Materials Use	Radionuclides of Concern	Potential for Contaminated Media	
Building IA-20, Chemical Laboratory	Used as a chemical and materials testing laboratory. Radioactive materials use consisted of: • Calibration and servicing of tensiometers, some of which had radioluminescent gauges containing Ra-226. • Storage, inspection, and partial disassembly of depleted uranium penetrators, which contained primarily U-238.	Ra-226, U-238	Surface soil	None
			Subsurface soil	Low
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	Low
Building IA-21, Material Test Laboratory	Used for nondestructive testing of weapon materials. Radioactive materials use consisted of: • Radiography using Co-60 sources. • Chemical testing with a gas chromatograph containing a Ni-63 source. • Handling of low-level radioactive waste containing Co-60 and Ra-226. • Examination and partial disassembly of depleted uranium penetrators, which contained primarily U-238.	Co-60, Ni-63, Ra-226, U-238	Surface soil	None
			Subsurface soil	Low
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	Low
Building IA-21A, Evaluation Laboratory	Used for electronic testing of microcircuits and as a wet chemistry laboratory. Radioactive materials use consisted of: • Storage of an Am-241 source associated with an X-ray nondispersive spectroscopy system. • Examination and partial disassembly of depleted uranium penetrators, which contained primarily U-238.	Am-241, U-238	Surface soil	None
			Subsurface soil	Low
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	Low

Table 3.8-2 Impacted Sites Identified by Historical Radiological Assessment

Impacted Site Designated by Historical Radiological Assessment	Radioactive Materials Use	Radionuclides of Concern	Potential for Contaminated Media	
Building IA-22, Photography Laboratory	Used as a wet chemistry laboratory. Radioactive materials use consisted of: • Chemical testing with a gas chromatograph containing a Ni-63 source. • Storage of a Po-210 source associated with an X-ray nondispersive spectroscopy system. • Examination and partial disassembly of depleted uranium penetrators, which contained primarily U-238.	Ni-63, U-238 (The Po-210 would have since decayed away because it has a 138-day half-life.)	Surface soil	None
			Subsurface soil	Low
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	Low
Building IA-58, X-Ray Building	Served as the Scientific and Engineering Division's primary X-ray and radiography facility. Radioactive materials use consisted of: • X-ray nondispersive spectroscopy using an Am-241 source. • Storage and use of radiography devices containing Co-60 sources. • Storage of radioactive check sources containing Sr-90 and Cs-137. • Storage of other miscellaneous sources such as an Am-241 source, a Ra-226 source, and a U-235 source from a neutron density gauge from the Navy's facilities at Pittsburg, California. • Examination and partial disassembly of depleted uranium penetrators, which contained primarily U-238. • Handling and storage of low-level radioactive waste.	Am-241, Co-60, Cs-137, Ra-226, Sr-90, U-235, U-238	Surface soil	None
			Subsurface soil	Low
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	Low

Table 3.8-2 Impacted Sites Identified by Historical Radiological Assessment

Impacted Site Designated by Historical Radiological Assessment	Radioactive Materials Use	Radionuclides of Concern	Potential for Contaminated Media	
Building 81, Ordnance Maintenance and Test Building	Used for ordnance maintenance and test activities such as missile assembly, maintenance of special weapons, explosive operations, and machine radiography. Radioactive materials use consisted of: • Handling of special weapons, which likely contained tritium (H-3), Pu-239, and U-235. • Radiography using Co-60 sources.	H-3, Co-60, Pu-239, U-235	Surface soil	None
			Subsurface soil	Low
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	Low
Building 87, Inert Storage Building	Used to store inert materials. Radioactive materials use consisted of: • Radiography using Co-60 sources. • Potential maintenance of special weapons, which likely contained tritium (H-3), Pu-239, and U-235.	H-3, Co-60, Pu-239, U-235	Surface soil	None
			Subsurface soil	Low
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	Low
Depleted Uranium Munitions Storage Magazines (6 total): 6LC87, 6LC88, 6LC96, 6PC44, 6PCZ58, and 6PCZ65	Radioactive materials use consisted of the storage of depleted uranium ammunition, which contained primarily U-238.	U-238	Surface soil	None
			Subsurface soil	None
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	None
Special Weapons, Bulk Magazines (17 total): 2AC61, 2AT5, 2AT6, 2AT7, 2AT8, 2AT9, 2AT10, 2AT11, 2AT12, 2AT13, 2AT14, 2AT15, 2AT16, 2AT17, 2AT18, 2AT19, and 2AT20	Radioactive materials use consisted of the storage of special weapons, which likely contained H-3, Pu-239, and U-235.	H-3, Pu-239, U-235	Surface soil	None
			Subsurface soil	None
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	None

Table 3.8-2 Impacted Sites Identified by Historical Radiological Assessment

Impacted Site Designated by Historical Radiological Assessment	Radioactive Materials Use	Radionuclides of Concern	Potential for Contaminated Media	
Special Weapons, RI Magazines (17 total): 2AC62, 2AC63, 2AC64, 2AC65, 2AC66, 2AC67, 2AC68, 2AC69, 2AC70, 2AC71, 2AT72, 2AT73, 2AT74, 2AT75, 2AT76, 2AT77, and 2AC78	Radioactive materials use consisted of the storage of special weapons, which likely contained H-3, Pu-239, and U-235.	H-3, Pu-239, U-235	Surface soil	None
			Subsurface soil	None
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	None
Special Weapons Magazine 2HT14	Radioactive materials use consisted of the storage of special weapons, which likely contained H-3, Pu-239, and U-235.	H-3, Pu-239, U-235	Surface soil	None
			Subsurface soil	None
			Surface water	None
			Groundwater	None
			Air	None
			Structures	Low
			Drainage systems	None

Naval Sea Systems Command 2010.

Key:
Am = americium
Co = cobalt
Cs = cesium
H = hydrogen
Ni = nickel
Po = polonium
Pu = plutonium
Ra = radium
RI = receipt inspection (unable to confirm)
Sr = strontium
U = uranium

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Potential_Radiological_Sites.mxd

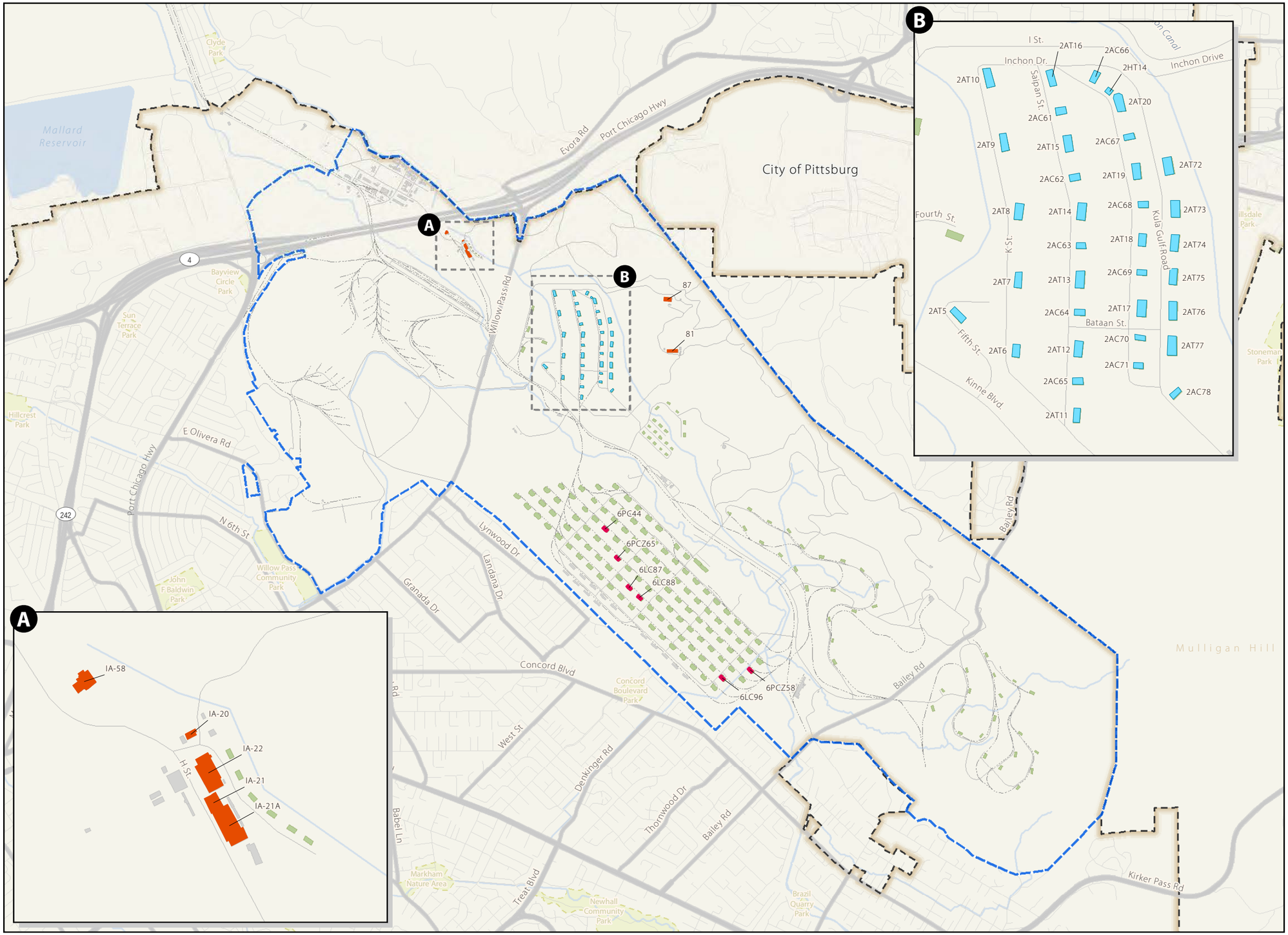


Figure 3.8-2

Potential Radiological Sites

Former NWS Concord

Concord, California

Legend

- Major Highway
- Street
- Railroad
- Stream/Canal
- Former NWS Concord
- City Limit
- Waterbody
- Local Park
- Building
- Magazine

Potential Radiological Sites Identified by Historical Radiological Assessment:

- Building
- Depleted Uranium Munitions Storage Magazine
- Special Weapons Magazine

N

SCALE

0 0.5 1 Miles

SOURCE: ESRI 2010; Naval Sea Systems Command 2010.

This page intentionally left blank.

3.8.6.4 Asbestos

Asbestos has been evaluated over time at the former NWS Concord by six ACM surveys (conducted in 1988, 1989, 1997, 1999, 2000, and 2013) as well as by the 2002 Environmental Baseline Survey (EBS) conducted for the Administration and Runway Areas. The ECP report provides the asbestos-evaluation results for the 70 buildings and facilities remaining (i.e., not demolished) in the Administration and Runway Areas at the time of the ECP report (2006). ACM was found in 40 of the 49 buildings that were surveyed for asbestos (Navy April 2006).

The 2013 asbestos investigation was an ACM reevaluation conducted to document for the Navy and future landowner the current condition of ACM at the installation. The comprehensive study consisted of reevaluation asbestos surveys for 60 previously surveyed buildings and structures, as well as initial asbestos surveys for 72 buildings and structures and 19 of the 190 ammunitions bunkers. The survey was a visual and physical inspection that did not include sampling. The evaluation report concluded that materials assumed to contain asbestos were present at all but 8 of the 151 structures evaluated. Asbestos is suspected to be present in materials such as pipe insulation, sealants, mastic, floor and ceiling tiles, sheet flooring, grout, cinder blocks and mortar, stucco, fire-door insulation, transite panels, drywall, gaskets, caulking and putty, and roofing. Some of the ACM was reported to be damaged or in poor condition. The report provided sampling and abatement recommendations relevant to future management of the buildings and structures (TriEco-Tt 2016b).

Due to the age and use of the buildings and utilities in the Inland Area, it can be assumed that ACM may be present in any unsurveyed structure (such as the remaining bunkers) or utilities constructed prior to 1989, the year that asbestos use was restricted in the U.S.

3.8.6.5 Lead-Based Paint

LBP has been evaluated at the former NWS Concord by two surveys (one conducted in 1996 primarily for housing and child-occupied areas and one pre-demolition survey conducted in 1997 for specified buildings) as well as by the 2002 Administration and Runway Areas EBS. The ECP report provides the LBP results for the 70 buildings and facilities remaining (i.e., not demolished) in the Administration and Runway Areas at the time of the ECP report (2006). Only one of those buildings/facilities (Building 245A-D, a Fourplex Unit) was surveyed for LBP, which was found in paint and in soil near the building's foundation (Navy April 2006).

Other buildings or facilities in the Inland Area have either not been surveyed for LBP or have been demolished. Due to the age and use of the buildings at the Inland Area, it can be assumed that LBP is present in any unsurveyed structure constructed prior to 1978, the year that lead-based paint use was restricted in the U.S.

Lead from LBP has been found in soil beneath Building IA-25 (IRP Site 29) during CERCLA investigations performed at that site and is being addressed under that program (see Section 3.8.3.1.1).

3.8.6.6 Polychlorinated Biphenyls

In the 1990s, the Navy tested and/or evaluated electrical transformers, other oil-filled electrical equipment (such as shop equipment containing hydraulic or dielectric fluid), and other potential PCB-containing equipment (such as fluorescent light ballasts) in the Inland Area in response to the 1979 U.S. ban on PCB manufacture. Transformers and oil-filled equipment were removed and replaced at that time if they contained PCBs in concentrations exceeding the EPA limit under the TSCA of 50 milligrams/kilogram (50 parts per million [ppm]) (TriEco-Tt JV 2016). The removed equipment was managed as a hazardous waste in accordance with the DTSC, whose level for PCB-containing liquids to be managed as a hazardous waste is 5 ppm (22 CCR Division 4, Chapter 11, Article 3).

A light ballast could contain sealed PCB-containing components if it had been manufactured before 1979. Potential PCB-containing light ballasts identified in the 1990s surveys were those that did not have a "Contains No PCBs" label (typically applied by the manufacturer). Such ballasts were not removed and have been left in place until the light fixture is removed from service. When a light fixture is removed from service, ballasts with "Contains no PCBs" labels are disposed of as municipal solid waste. Ballasts without such a label, or where the PCB content could exceed the DTSC hazardous waste standard, are disposed of as hazardous waste (TriEco-Tt JV 2016).

The ECP report contains testing results available in 2006 for 270 transformers in the Inland Area (Navy April 2006). Although more than 60 results were not available, the available results showed PCB concentrations below 50 ppm, with at least 55 of the results exceeding 5 ppm.

In 2013 and 2015, the Navy performed a comprehensive PCB inventory and inspection of oil-filled electrical equipment (consisting primarily of transformers and some oil-filled switches) at the former NWS Concord in support of future property transfer. The inventory and inspection included assembly and evaluation of historical records, sampling and analysis for PCBs in oil for transformers with missing testing records, affixing appropriate "Non PCB" labels if missing, and sampling of environmental matrices (such as concrete, wood, soil, and surface swipes) around identified transformers, especially where oil stains were observed (TriEco-Tt JV 2016). Key results from the 2013/2015 inventory and inspection consist of the following:

- 207 documented pieces of oil-filled electrical equipment (nearly all transformers) remain at the former NWS Concord. All oil-filled electrical equipment remaining at the installation contains either no PCBs or PCBs at concentrations less than 27 ppm, which is below the EPA limit of 50 ppm. Some of these pieces contain PCBs at levels greater than or equal to 5 ppm, which is the level at which the DTSC requires PCB-containing liquids to be managed as a hazardous waste, when those liquids are disposed of.
- All oil-filled transformers are properly labeled with a "Non PCB" label, indicating that they contain less than 50 ppm PCBs.
- The recent sampling of areas around transformers that were identified in the 2013/2015 inspection did not show PCBs in surrounding environmental matrices at levels above the screening criteria.
- The Navy has conducted four documented environmental cleanups for PCBs at the installation. Soil, concrete, and other materials potentially contaminated with PCBs from past spills or leaks have been investigated and, if necessary, removed. The report for the 2013/2015 inspection notes "There are no other known sites with PCB environmental issues at former NWS Concord."
- Off-line, on-ground, oil-filled electrical equipment (consisting of transformers, oil-filled cutouts, and regulators) has been drained of oil to prevent future spills.
- The PCB status of an inactive hydraulic lift in Building IA-58 is uncertain. It is unknown whether the lift currently contains oil or PCBs.

A comprehensive survey of potential PCB-containing fluorescent light ballasts and capacitors has not been conducted; however, it is assumed that ballasts and capacitors in older light fixtures in buildings, structures, and facilities constructed prior to 1979 contain PCBs. Some buildings constructed prior to 1979 have undergone interior renovations and had new light fixtures installed that do not contain PCBs.

3.8.6.7 Radioactive Materials

No radioactive materials are currently known to be in use or stored at the Inland Area of the former NWS Concord (Navy April 2006). As discussed in Section 3.8.5, NWS Concord was previously licensed and permitted to use radioactive materials, with the last of the permits being terminated in 2008. The potential for residual radioactive materials in environmental media is discussed in Section 3.8.5.

3.8.7 Other Nearby Hazardous Waste/Material Sites

The most significant hazardous waste/materials site near the former NWS Concord Inland Area is the 6,419-acre MOTCO, which consists of the former NWS Concord Tidal Area and a small portion of the Inland Area that were transferred to the U.S. Army in 2008. As with the Inland Area, hazardous materials were used and hazardous wastes were generated at the Tidal Area in support of the Navy's mission when the area was under Navy control. The Tidal Area was included in the 1983 IAS. Hazardous materials sites identified at the Tidal Area include the Tidal Area Landfill, R-Area Disposal Site, Kiln Site, Allied A and B Sites, Coke Pile Site, Froid and Taylor Road Site, Wood Hogger Site, K-2 Area, G-1 Area, and Litigation Area, among others. Collectively, those sites were affected by contaminants that included petroleum constituents, heavy metals, solvents, VOCs, burn materials, wood preservatives, pesticides, PCBs, and ordnance (Navy 2005; Ecology and Environment, Inc., 1983). The Army has taken over cleanup of historical waste/materials sites at MOTCO under its IR program. For example, the Army has submitted the proposed plan for cleanup of Sites 2 (R-Area Disposal Site), 9 (Froid and Taylor Road Site), and 11 (Wood Hogger Site), which consists of LUCs to address risks to human health from arsenic, PAHs, dioxins/furans, and PCBs in soil (Department of the Army 2011). Presently, MOTCO is an active installation that provides terminal and distribution services for ammunition and cargo. MOTCO is listed as an NPL site in DTSC's EnviroStor Database.

In addition to the MOTCO facility, the EnviroStor database lists numerous smaller cleanup or corrective action sites in nearby cities. Examples of these sites are the Central Contra Costa Sanitary District disposal area in Martinez; the Triangle PWC galvanizing, Union Collier, and Camp Stoneman IR-MMRP sites in Pittsburg; the Chemical and Pigment Company site and Criterion Catalysts & Technologies site in Bay Point; the Cordis Dow Corp site in Concord; and the Clyde Pedestrian Path site in Clyde (DTSC n.d.). Each of these sites is within 1 to 3 miles of the former NWS Concord and is in various stages of regulatory action. According to EPA's Superfund Enterprise Management System database, the closest CERCLA site in Contra Costa County would be the Marsh Creek Road Abandoned Dump Site, which is located in Clayton approximately 2.5 miles southeast of the southeastern boundary of the former NWS Concord. Other EPA-listed sites in the county are more than 3 miles from the former NWS Concord (EPA 2017).

Phillips 66 (P66) is currently conducting petroleum cleanup and groundwater monitoring actions near the southeast corner of the Inland Area. In 2011, oil was discovered within and adjacent to Navy property, and a release was subsequently identified in the P66-owned Line 200 pipeline. P66 performed an emergency cleanup, including some soil and groundwater removal, and replaced a portion of the pipeline. P66 is continuing remediation activities and coordination with applicable resource agencies, including the USACE and the RWQCB. The USACE and the RWQCB are involved because the remediation effort impacted small areas of seasonal wetlands, soil, and groundwater subject to the regulatory jurisdiction of these two agencies pursuant to the CWA (Phillips 66 Pipeline LLC 2012). The RWQCB issued Order number R2-2016-0013 in June 2016 outlining the cleanup requirements to achieve unrestricted closure at the site (San Francisco Bay RWQCB 2016b).

3.9 Noise

This section provides background information on how noise is measured, and the regulatory framework for evaluating noise. It also provides a description of existing noise levels for the area of the former NWS Concord.

3.9.1 Noise Fundamentals

Noise is defined as unwanted sound. The ambient sound level of a region is defined by the total noise generated within the specific environment and is usually composed of sound emanating from natural sources and from human activities. Some land uses, known as sensitive receptors, are more sensitive to noise than others. Sensitive receptors generally include homes, schools, convalescent and retirement homes, hospitals and care facilities, parks, and outdoor recreation areas.

Ambient sound levels vary with time of day, wind speed and direction, and level of human activity. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location. The amplitude of sound is usually described by the decibel (dB), which is a logarithmic measure of the sound pressure level. Everyday sounds normally range from 30 dB (very quiet) to 100 dB (very loud). Table 3.9-1 lists typical sources and levels of noise and the corresponding human responses to the noise levels. Noise measurements are usually on an "A-weighted" scale, denoted as "dBA," which filters out very low and very high frequencies in order to replicate human sensitivity.

To characterize the average ambient noise environment in a given area, noise level descriptors are commonly used. The day-night average sound level, or "DNL," is a 24-hour-period noise descriptor that places a stronger emphasis on noise that occurs during nighttime hours (10:00 p.m. to 7:00 a.m.) by applying a 10-dB "penalty" to compensate for sleep interference and other disruptions caused by loud nighttime noise. Shorter measurement durations (typically 1 hour) are described as A-weighted energy equivalent levels (LA_{eq})[6], indicating the total energy contained by the sound over a given sample period, or the average noise based on the energy content (acoustic energy) of the sound.

3.9.2 Regulatory Framework

Implementation of the proposed action must comply with applicable local noise regulations. Regulating noise is generally a responsibility of local governments, and no federal or state noise standards directly regulate environmental or community noise. However, several federal agencies have developed community noise guidelines.

U.S. Environmental Protection Agency and Federal Highway Administration

In response to the passage of the federal Noise Control Act of 1972, the EPA published *Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* in 1974. The EPA guidance provides recommended maximum noise levels to protect public health and welfare with adequate margins of safety. In these guidelines, a noise level of 70 dBA $L_{eq}(24)$, the 24-hour equivalent continuous sound level, was identified as the level of environmental noise that would prevent any measurable hearing loss over a lifetime, and noise levels of 55 dBA DNL outdoors and 45 dBA indoors were identified as noise thresholds that would prevent activity interference or annoyance (EPA 1978). The EPA guidance also identifies an increase of 5 dBA, as compared to a baseline noise exposure level of 55 dBA DNL, as an adequate or acceptable increase relative to adverse community reaction.

[6] L_{eq}, the equivalent continuous sound level, is the preferred single value figure to describe sound pressure levels that vary over time and would produce the same sound energy over the stated period of time.

Table 3.9-1 Decibel Levels of Common Sounds

Sound Source	dBA	Perception/Response
	150	
Carrier Deck Jet Operation	140	
	130	Painfully Loud Limit
Jet Takeoff (200 feet)	120	
Discotheque		
Auto Horn (3 feet)	110	
Riveting Machine		
Jet Takeoff (2,000 feet) Shout (0.5 foot)	100	
New York City Subway Station	90	Very Annoying
Heavy Truck (50 feet)		Hearing Damage (8 hours, continuous exposure)
Pneumatic Drill (50 feet)	80	Annoying
Freight Train (50 feet) Freeway Traffic (50 feet)	70	Telephone Use Difficult Intrusive
Air Conditioning Unit (20 feet)	60	
Light Auto Traffic (50 feet)	50	Quiet
Living Room Bedroom	40	
Library Soft Whisper (15 feet)	30	Very Quiet
Broadcasting Studio	20	
	10	Just Audible
	0	Threshold of Hearing

Source: NYSDEC 2001.

Key:
dBA = A-weighted decibels

The Federal Highway Administration's *Construction Noise Handbook* provides guidance for assessing construction-noise related to transportation projects and is commonly used to evaluate construction noise for non-transportation-related projects. The handbook contains maximum noise emission levels and usage factors for various construction equipment, and this information can be used in predicting construction noise levels.

Contra Costa County

Contra Costa County has ordinances that limit noise for wind energy conversion systems and temporary events. The county currently has no other quantitative noise regulations.

City of Concord Noise Regulations

Section 62-32(1)y of the Concord Municipal Code defines the hours of the day when permitted construction activity is allowed. Section 122-306(o) states that "all noise emanating from the subject site shall comply with the noise standards in the Safety and Noise Element of the General Plan. An acoustic study may be required, at the project applicant's expense, for any use which could create or be subject to noise exposure greater than that deemed normally acceptable by the General Plan. The acoustic study shall include recommendations on noise attenuating or mitigating measures to reduce noise impacts to acceptable levels."

The City of Concord's Guidelines for Community Noise Exposure can be found in the Safety and Noise Element of the General Plan (City of Concord 2012) and are presented in Table 3.9-2.

Table 3.9-2 City of Concord's Guidelines for Land Use Compatibility with Community Noise Exposure

	Day-Night External Sound Level (dB DNL)			
Land Use Category	**Normally Acceptable[1]**	**Conditionally Acceptable[2]**	**Normally Unacceptable[3]**	**Clearly Unacceptable[4]**
Residential Low-Density Single-Family, Duplex, Mobile Homes	50–59	60–69	70–74	Greater than 75
Residential Multi-family	50–64	65–69	70–74	Greater than 75
Mixed-Use and High-Density Residential	50–64	65–74	75–79	Greater than 80
Transient Lodging: Motels, Hotels	50–64	65–69	70–79	Greater than 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	64–69	65–69	70–79	Greater than 80
Auditorium, Concert Halls, Amphitheaters	--	50–69	--	Greater than 70
Sports Arenas, Outdoor Spectator Sports	--	50–74	--	Greater than 75
Playgrounds, Neighborhood Parks	50–66	67–74	--	Greater than 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–69	70–79	Greater than 80	--

Table 3.9-2 City of Concord's Guidelines for Land Use Compatibility with Community Noise Exposure

Day-Night External Sound Level (dB DNL)				
Land Use Category	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Office Buildings, Business Commercial, Professional	50–69	70–74	Greater than 75	--
Industrial, Manufacturing, Utilities, Agriculture	50–69	70–74	Greater than 75	--

Source: City of Concord 2012

1 Normally Acceptable: Specified land use is satisfactory, based on the assumption that any buildings are of conventional construction, without any special noise insulation requirements.

2 Conditionally Acceptable: New construction should be undertaken only after a detailed analysis of the noise reduction requirements and after noise insulation features are included in the design. Conventional construction with closed windows and fresh air supply systems or air conditioning will normally suffice.

3 Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made, and noise insulation features must be included in the design.

4 Clearly Unacceptable: New construction or development should generally not be undertaken.

Key:
dB DNL = Day-Night Average Sound Level, in Decibels.

3.9.3 Ambient Noise Measurements

Land uses surrounding the former NWS Concord are discussed in Section 3.2. Road traffic and rail noise from BART are the major sources of noise around the former NWS Concord. The main traffic routes contributing to local noise generation are SR 4, SR 242, Port Chicago Highway, Olivera Road, Farm Bureau Road, Willow Pass Road, Concord Boulevard, Clayton Road, and Bailey Road. The BART corridor passes north to south through the City of Concord and then follows SR 4 east across a portion of the former NWS Concord, toward the City of Pittsburg. Kinne Boulevard, which is not open to public use, runs through the middle of the former NWS Concord from the main entrance at the north to Bailey Road at the south.

The City of Concord conducted noise measurements in 2007 to characterize the ambient noise environment in and around the former NWS Concord (City of Concord 2010). These noise measurements included attended spot measurements and long-term monitoring. Attended spot measurements were collected over 15-minute sampling periods between 7:00 a.m. and 7:00 p.m. and were designed to capture peak traffic and off-peak traffic noise conditions. Sound level meters were deployed on-site for long-term monitoring. Meters recorded a noise measurement after every 15 minutes of sampling over a period of 7 days. The 24-hour DNL was calculated for the long-term monitoring locations, and the results from the spot noise measurements are given in terms of LA_{eq}. The results are provided in Tables 3.9-3 and 3.9-4.

Table 3.9-3 Long-Term Noise Monitoring Results

Sound Level Meter	Description of Location	DNL (dB)[1]
A	At the southeast boundary of the former NWS Concord, approximately 1,000 feet from the center of Bailey Road and 1,130 feet from the boundary of the former NWS Concord. Measurement taken at 5 feet above grade.	48
B	100 feet from eastbound SR 4 traffic, approximately 1,000 feet southwest of the overpass over Kinne Boulevard. Measurement taken at 5 feet above grade.	75
C	On a hilltop located at the northeast corner of the former NWS Concord, 360 feet southeast of the eastbound BART track and 1,300 feet south of eastbound SR 4 traffic.	69

Source: City of Concord 2010.

Key:
db DNL = Day-Night Average Sound Level, in Decibels.

Table 3.9-4 Spot Measurement Results

Field Measurement Location	Description of Location	Dominant Noise Source(s)	dB LAeq[1], 15 min
1	Along Port Chicago Highway at High School Avenue, approximately 35 feet from BART line (railway elevated above Port Chicago Highway), and 20 feet from center of Port Chicago Highway	BART, Port Chicago Highway	71
2	At Willow Pass Community Park: East Olivera Road at Salvio Street, approximately 25 feet from East Olivera Road at west boundary of the former NWS Concord	East Olivera Road	70
3	Along Willow Pass Road at Granada Drive, approximately 25 feet from center of Willow Pass Road	Willow Pass Road	73
4	Along Concord Boulevard at Granada Drive, approximately 25 feet from center of Concord Boulevard	Concord Boulevard	73
5	Along Clayton Road at Mendocino Drive, approximately 25 feet from center of Clayton Road	Clayton Road	76
6	Along Bailey Road at Myrtle Drive, approximately 25 feet from center of Bailey Road at southwest boundary of the former NWS Concord	Bailey Road	71
7	At the playground behind 2731 Hamilton Avenue on western boundary of the former NWS Concord	BART, SR 4	50
8	On sidewalk outside 4014 Majestic Drive, at Lynwood Drive, approximately 50 feet from western boundary of the former NWS Concord	Lynwood Drive	49
9	On sidewalk outside 249 Havenwood Circle in Pittsburg, northeast of the former NWS Concord	SR 4	44
10	On sidewalk outside 1844 Rosa Blanca Drive, in Pittsburg, northeast of the former NWS Concord	SR 4	47

Table 3.9-4 Spot Measurement Results

Field Measurement Location	Description of Location	Dominant Noise Source(s)	dB LAeq[1], 15 min
11	Along SR 4 at Kinne Boulevard on the former NWS Concord, approximately 75 feet north of center of SR 4	BART, SR 4	67

Source: City of Concord 2010.

Key:
dB LA_{eq} = A-weighted Energy Equivalent Level, in Decibels.

3.10 Public Services

This section describes the existing physical and regulatory setting for educational facilities, fire protection, law enforcement services, emergency medical services, and parks and recreation within the City of Concord and Contra Costa County.

3.10.1 Regulatory Framework

3.10.1.1 Federal and State

Leroy F. Greene School Facilities Act of 1998

The Leroy F. Greene School Facilities Act of 1998 authorizes school districts to levy statutory developer fees on new construction. Per the language in California Government Code Section 65996, the development fees authorized by this law provide for "full and complete school facilities mitigation."

3.10.1.2 Regional and Local

City of Concord 2030 General Plan

The City of Concord 2030 General Plan identifies policies and goals to guide future growth within the city. Several policies addressing the provision of public services are included within the plan, including policies that establish performance standards for police facilities, reserve adequate land for schools and other community uses such as parkland, and ensure sufficient public safety services. In addition, the plan authorizes the collection of development fees for public services where appropriate (City of Concord 2012). These policies are discussed below, as applicable.

- Policy PF-2.1.6 of the City of Concord 2030 General Plan requires that future planning for the former NWS Concord include adequate land for schools.
- Growth Management Element Policy 2.1.1, Standard A, establishes a requirement that new development dedicate parkland at the ratio of 5 acres per 1,000 residents.

According to the City of Concord 2030 General Plan Parks, Open Space, and Conservation Element, Policy 1.1.1 calls broadly for parks acquisition and development to achieve a ratio of 6 acres of parkland per 1,000 residents. The city's policy is to maintain a ratio of parkland per 1,000 residents through a combination of new parkland provided by new development at the ratio of 5 acres per 1,000 residents plus additional parklands paid for through other funding sources, such as parkland bonds, in order to meet the 6-acre standard (City of Concord 2012).

Mount Diablo Unified School District School Development Fees

In accordance with California Education Code 17620 (formerly California Government Code Section 53080), the MDUSD levies a development fee on new construction within the district. These development

fees fund the district's Capital Facilities Fund. Effective June 10, 2016, this development fee was $3.48 per square foot of new, accessible residential construction and $0.56 per square foot of new covered and enclosed space of commercial/industrial construction. These fees are typically reviewed and adjusted every five years (MDUSD 2016).

East Bay Regional Park District Master Plan

The EBRPD manages the regional parks in Contra Costa and Alameda counties. The EBRPD Public Safety Division provides police, fire, and emergency services to all EBRPD parklands (EBRPD 2014c). Parklands are managed in accordance with the EBRPD Wildfire Hazard Reduction and Resource Management Plan to reduce the risk of wildfire (EBRPD 2013a).

3.10.2 Educational Facilities

The former NWS Concord is located within the boundaries of the MDUSD, which serves the City of Concord as well as part of central Contra Costa County, including the communities of Clayton and Pleasant Hill, and sections of Walnut Creek, Martinez, Pittsburg, and Bay Point. The MDUSD encompasses 54 schools, including 31 elementary schools, nine middle schools, five high schools, four alternative high schools, two special education schools, two charter schools, and one continuation high school. In addition the district provides pre-school programs, adult education programs, and mental health collaborations (MDUSD n.d.)

During the 2015 - 2016 school year, the district had a total population of 32,005 students in kindergarten through grade 12 (MSUSD n.d.). Over the past 12 years, total enrollment in the district has declined. During the 2003-2004 school year, total enrollment in the district was 36,821 students; by the 2015 - 2016 school year, total enrollment had declined by 15.0 percent to 32,005 students (Education Data Partnership 2011 - 2016).

During the 2014 - 2015 school year, the most recent year for which data are available, the MDUSD employed a total of 1,531 full-time equivalent (FTE) teachers. As a result, the 2014 - 2015 students-per-teacher ratio was 22.2. This ratio is slightly higher than that experienced in the district during the 2006-2007 school year, when the ratio was 21.0 students per teacher (Education Data Partnership 2016).

Currently, three institutions of higher learning are located in the City of Concord, including California State University (CSU), East Bay Concord Campus, which offers degrees and courses in nursing and other health-related fields, business administration, criminal justice, and teaching certification. In addition, Heald College Concord offers training in dental and medical assisting; and the Gurnick Academy of Medical Arts offers courses and certificates in the medical field.

3.10.3 Public Safety, Emergency, and Health Care Facilities

3.10.3.1 Police

The DOD currently provides safety, security, and perimeter control on the former NWS Concord site and will continue to do so until the formal transfer of the site is completed.

The City of Concord Police Department (CCPD) provides police services to all other areas within the city boundaries, with support from the California Highway Patrol; the Contra Costa County Sheriff, which has jurisdiction over unincorporated areas within the vicinity of the site; the BART District Police; and the University Police at CSU East Bay Concord Campus.

During FY 2016-2017, the CCPD patrolled approximately 30.5 square miles with 162full-time sworn officers and supported by 50 non-sworn, full-time employees, (City of Concord, Finance Department

n.d.). Based on 2015 U.S. Census Bureau data, approximately 126,268 people live in the City of Concord. This equates to approximately 1.3 officers per 1,000 residents, which is consistent with the countywide average of 1.2 officers per 1,000 residents. According to data provided by the Local Agency Formation Commission (LAFCO), on average, the CCPD responds to Priority 1 incidents within 12 minutes and 15 seconds, while law enforcement countywide averaged 5 minutes and 19 seconds (Contra Costa LAFCO 2011).

The CCPD operates out of its headquarters building located on Galindo Street. In 2016, the department responded to a total of 121,433 calls for service, conducted 3,853 physical arrests, responded to 4,849 Priority I incidents and issued 7,282 parking violations (City of Concord Finance Department 2016). Financing for the operation and maintenance of the CCPD comes from the City of Concord General Fund.

3.10.3.2 Fire and Emergency Medical Services (EMS)

Fire protection at the former NWS Concord is primarily provided by the Military Ocean Terminal Concord Fire Department. A fire protection facility known as the Inland Firehouse, located just north of SR 4 on the former NWS Concord, was originally built to provide services to the Navy and is no longer in operation.

Fire protection and EMS services in the City of Concord are provided by the CCCFPD. The CCCFPD provides fire services to nine cities, including Antioch, Clayton, Concord, Lafayette, Martinez, Pittsburg, Pleasant Hill, San Pablo, and Walnut Creek as well as several unincorporated areas of Contra Costa County, including the communities of Bay Point, Clyde, El Sobrante, Pacheco, and Port Chicago from 25 fully-staffed stations located throughout the region. The locations of these fire stations are shown in Figure 3.10-1 (CCCFPD 2013). As of March 2017, 26 three-person fire companies were operating out of 25 stations, and one 2-person squad was operating out of Fire Station 70 (located at 13928 San Pablo Ave.) (Grace 2017).The district currently staffs 22 three-person engine companies, four 3-person ladder truck companies, and one 2-person squad in service. The district has a total of 252 fire suppression personnel (Grace 2017). These stations and personnel served more than 546,220 people in 2015, with a ratio of approximately one fire station per 21,849 people and a ratio of approximately 0.46 fire suppression personnel per 1,000 residents (Grace 2017; U.S. Census Bureau n.d.).

In addition to services provided by CCCFPD personnel, the district also maintains mutual aid agreements with all fire agencies in Contra Costa County, including the East Contra Costa Fire Protection District (ECCFPD), the EBRPD, the California Department of Forestry and Fire Protection (CAL FIRE), and private industrial companies. These agreements provide the CCCFPD with emergency response assistance on an as-needed basis (City of Concord 2010). In addition, the Army currently operates an emergency response facility at the MOTCO that is anticipated to be available for mutual aid response as long as the MOTCO is in operation.

The City of Concord does not currently charge fire protection service-related fees for new development projects. When a large project is proposed, the City of Concord, the CCCFPD, and the project proponent work together through a specific plan (or other detailed planning) process to define the number and location of fire facilities needed to support the development and determine when to provide any additional facilities and funding for those facilities.

The CCCFPD provides EMS services throughout its service area through a contract with American Medical Response (AMR) CoCo County. AMR CoCo County is fully accredited with the Commission of Accreditation of Ambulance Services (CAAS) and employs approximately 350 EMTs and paramedics in Contra Costa County. AMR CoCo County typically responds to approximately 70,000 calls per year under its contract with CCCFPD (AMR n.d.). Contra Costa County's ambulance contract requires AMR to comply with a 90 percent response standard of 11 minutes and 45 seconds for all Code 3 emergency

calls within urban areas, while the county's board of supervisors has also established a goal of 10 minutes for paramedic response time.

3.10.3.3 Health Care

Several hospitals/medical facilities serve residents of the City of Concord, including the John Muir Medical Center Concord, located in the city, and the John Muir Health Center Walnut Creek, located in Walnut Creek. In addition, the Children's Hospital and Research Center Oakland—Walnut Creek Campus provides outpatient pediatric surgery, diagnostic imagining, and specialty care, and the Kaiser Permanente Walnut Creek Medical Facility provides emergency or urgent care and general medical services. Both of these facilities are located in Walnut Creek and serve area residents (Children's Hospital & Research Center n.d.).

The John Muir Medical Center Concord is a 245-bed licensed hospital that specializes in cancer and cardiac care. In addition, it provides general surgery and orthopedic and neurology programs. The John Muir Medical Center Walnut Creek is a 554-bed licensed medical facility that serves all of Contra Costa County and is the only designated trauma center in the county. The John Muir Health group also operates a 73-bed psychiatric hospital in the City of Concord (John Muir Health 2017).

3.10.4 Open Space, Parks, and Recreation

The former NWS Concord is not accessible to the public for open space, parks, or recreational uses, with the exception of the public Diablo Creek Golf Course, approximately 50 percent of which is located in land leased from the Navy. As discussed in the 2010 FEIR, Contra Costa County has many parks, recreation facilities, trails, and open space areas, and approximately 636 acres of parks, recreation, and open space facilities are located within the City of Concord (City of Concord 2010).

The former NWS Concord is located within the jurisdiction of the EBRPD, which controls over 121,000 acres of parkland throughout Alameda and Contra Costa counties (EBRPD 2014a). The EBRPD oversees several parks in unincorporated areas of the county that are located within 5 miles of the project site. Some of these include the Black Diamond Mines Regional Preserve (2.6 miles east), Waterbird Regional Park (3.5 miles west), Diablo Foothills Regional Park (4 miles southwest), Clayton Ranch landbank (4.5 miles south), and the Briones Regional Park (5 miles west) (City of Concord 2010).

The EBRPD is also responsible for building and maintaining more than 1,200 miles of trails (EBRPD 2014a). Within the vicinity of the site, this trail network includes the Iron Horse Regional Trail and the California Hiking and Riding Trail, both of which pass through Concord; the Contra Costa Canal Regional Trail, which terminates near the southwestern edge of the site; and the Delta de Anza Regional Trail, which terminates near the northern edge of the site at the intersection of Willow Pass Road and SR 4 (City of Concord 2002).

In addition to the facilities operated by the EBRPD, the City of Concord also maintains a network of public parks and recreational facilities, including approximately 331 acres of neighborhood and community parkland, and 305 acres of specialized recreation facilities such as sports complexes, golf courses, gardens, and arboretums. The city also operates seven community centers, a senior center, and public swimming pools (City of Concord 2012).

Parks, open space, and recreation areas in the City of Concord serve 126,268 residents in the city, in addition to others who live and work in the region. Therefore, the current ratio of city parkland per resident is approximately 5.1 acres per 1,000 residents.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Community_Facilities.mxd

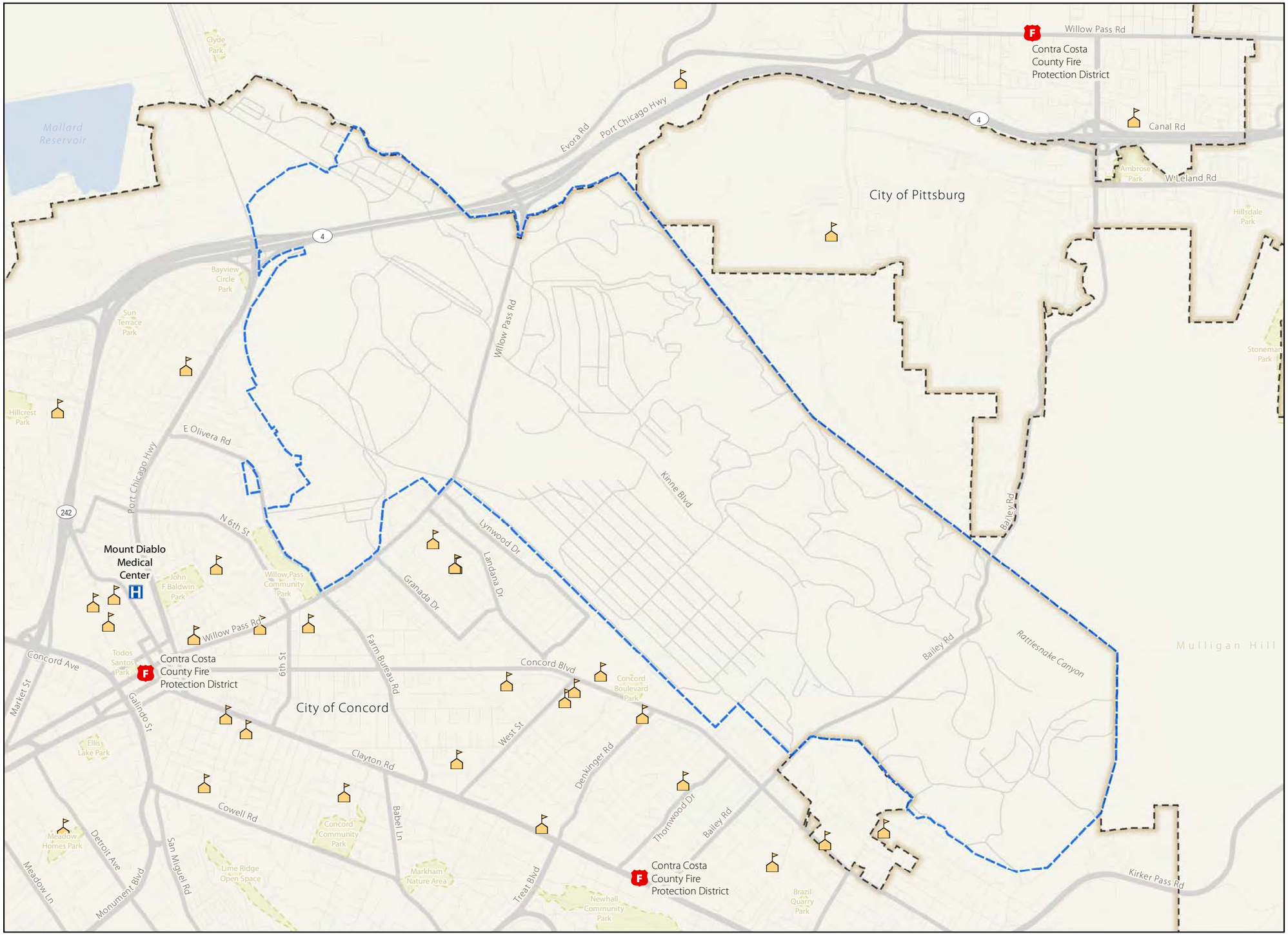


Figure 3.10-1
Community Facilities
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits

Community Facilities

- Fire Station
- Hospital
- School

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2004, 2011.

This page intentionally left blank.

Additional regional and state open space areas include Mt. Diablo State Park, a 20,000-acre park approximately 2.5 miles from the former NWS Concord, and semi-private parkland, public watershed lands, and deed restricted open space areas immediately south and east of the site in the Los Medanos Hills (East Contra Costa County Habitat Conservancy 2016).

3.11 Transportation, Traffic, and Circulation

This section describes the state, regional, and local plans and policies that guide the development and management of the transportation network around the former NWS Concord. This section also describes the current local roadway network and traffic conditions, as well as public transportation, that support the City of Concord.

3.11.1 Plans and Policies

No specific statutes govern transportation as it pertains to implementation of the proposed action; however, City of Concord regulations require future developments outside of the area that would be developed under the Area Plan to pay a fee that would partially fund transportation improvements. Several state, regional, and local plans and policies guide the development and management of the transportation network in the vicinity of the former NWS Concord. While decisions regarding policy and allocation of federal and state transportation funding generally are made at the state level, planning typically begins at the local level and is carried through the regional and state levels.

State

The California Department of Transportation (Caltrans) and the California Transportation Commission (CTC) are the primary agencies that oversee transportation infrastructure in California. Caltrans manages the state's highway and inter-city rail systems (Caltrans 2013), and the CTC is responsible for the programming and allocating of funds for the construction of highway, passenger rail, and transit improvement in the State of California.

Caltrans' California Transportation Plan 2040 (CTP 2040) is a statewide, long-range transportation plan that will create a policy framework for all levels of government to address future mobility needs and reduction of GHG emissions. CTP 2040, finalized in June 2016, replaces CTP 2025, which was approved in 2006 and updated in 2007. Transportation goals identified in the CTP 2040 planning process include improving multi-modal mobility and accessibility for all people and preserving the multi-modal transportation system. Policies related to these goals include operating an efficient, integrated transportation system; strategic investment to optimize system performance; providing viable and equitable multi-modal choices; sustainable and preventative maintenance and rehabilitation strategies; including life cycle costs in decision making; and adapting the transportation system to reduce impacts from climate change. Other goals of CTP 2040 include supporting a vibrant economy, improving public safety and security, fostering livable and healthy communities, promoting social equity, and practicing environmental stewardship (Caltrans 2016a).

Contra Costa County is located in Caltrans District 4, which encompasses the nine-county San Francisco Bay Area. The SR 4 Widening Projects, which included the expansion of SR 4 between the City of Pittsburg and SR 160, were completed in July 2016 (Caltrans 2017). Currently, the only Caltrans project under way near the former NWS Concord are the construction of SR 680 southbound express lanes from the Benicia Bridge to Walnut Creek by adding a lane and converting existing carpool lanes (Caltrans 2017).

The CTC is responsible for adopting the 5-year State Transportation Improvement Program (STIP) and approving the 4-year State Highway Operating and Protection Program (SHOPP) (CTC 2013); both programs are funded from a mix of federal and state dollars, while STIP projects may also receive local

funding. The 2016 STIP states a total of $113.1 million (since July 1, 2014) was programmed or voted for state highway improvements, intercity rail, regional highway and transit improvements, and bicycle and pedestrian projects in Contra Costa County through 2021 (CTC 2016). However, the total proposed new programming equals -$53.7 million for Contra Costa County. Based on the amended 2016 Fund Estimate, the STIP is over programmed for the first three years of the STIP period and there is no capacity to add new projects (CTC 2016). The Interregional Transportation Improvement Program and Regional Transportation Improvement Program (RTIP) nominate projects for inclusion in the STIP.

The Interregional Transportation Improvement Program is prepared by Caltrans to allocate funding for highway, bicycle and pedestrian, and rail projects that improve interregional mobility across the state; none of the projects in the 2016 Interregional Transportation Improvement Program are located near the former NWS Concord. The RTIP is prepared by the MTC and is discussed below.

The 2016 SHOPP includes over $92.7 million in allocations for maintenance, safety improvements, and rehabilitation of the state highway system in Contra Costa County through 2020 (Caltrans 2016b). Proposed transportation projects included in the STIP and SHOPP near the former NWS Concord are presented in Table 3.11-1.

Regional

Transportation planning in California at the regional and local level has a strong connection with land use planning. Multiple regional agencies are involved in planning for transportation in and around Concord, including the MTC, which serves the nine-county San Francisco Bay Area that includes Contra Costa County; the Contra Costa Transportation Authority (CCTA), serving Contra Costa County; and two Regional Transportation Planning Committees (RTPCs) serving central and eastern Contra Costa County.

The MTC serves as the region's federally designated Metropolitan Planning Organization (MPO) and the state-designated regional transportation planning agency. MPOs are designated in urbanized areas with populations over 50,000 people and are responsible for developing a RTIP that recommends regional transportation projects to be included in the STIP. Regional transportation planning agencies are responsible for developing a regional transportation plan that serves as a long-range transportation plan and the foundation for the RTIP (MTC 2013). The 2016 RTIP was adopted by the MTC at the end of 2015 and adopted as part of the STIP in early 2016 (MTC 2016). All transportation projects near the former NWS Concord included in the 2016 RTIP were included in the 2016 STIP (see Table 3.11-1). MTC has also approved the 2017 Transportation Improvement Program (TIP), and has forwarded the 2017 TIP to Caltrans to be included in the Draft 2017 Federal-Statewide Transportation Improvement Program (FSTIP). Federal approval is expected in December 2017(MTC 2017a).

The regional transportation plan developed by the MTC in partnership with ABAG was integrated with the land use strategy known as Plan Bay Area. Plan Bay Area includes the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan (RTP). California's 2008 Senate Bill 375 requires the state's 18 metropolitan areas to develop a Sustainable Communities Strategy to reduce GHG emissions from cars and light trucks and plan for future population growth. Plan Bay Area was adopted in July 2013 and included the transportation projects near the former NWS Concord that are presented in Table 3.11-1. Not all projects included in Plan Bay Area were included in the 2014 or 2016 RTIP or STIP. Plan Bay Area projects not included in the STIP may not currently have been allocated federal or state funding but may be funded locally (ABAG and the MTC 2013).

Table 3.11-1 Proposed Transportation Projects Near NWS Concord

Project	Program or Plan Proposing the Project
Collision-reduction improvements from I-680 to east of Bailey Road at three locations (safety lighting, high-reflective striping and markings).	SHOPP
Collision-reduction improvements near Concord on SR 4 from I-80 to I-160 (vegetation control, Maintenance Vehicle Pullout (MVP) and pave beyond gore)	SHOPP
Collision reduction improvements in various cities in the county and on SR 242 I- 680 at various Locations (maintenance worker safety improvements)	SHOPP
Install safety lighting in and near Concord (south of Arthur Road)	SHOPP
Rehabilitation Buchanan Field Viaduct No. 28-0186 in Concord	SHOPP
Pavement rehabilitation in Concord from I-680 to SR 4	SHOPP
Improvements to the I-680 and SR 4 interchange	STIP, RTIP, RTP, CMP, CC RTPC, General Plan
Widening of SR 4 east of Pittsburg to SR 160	STIP, RTIP, RTP, CMP, Measure J, EC RTPC
Extending BART from Pittsburg to Byron in eastern Contra Costa County	RTP, CMP, Measure J
Constructing HOV lanes on I-680 south of Concord	STIP, RTIP, RTP, CMP, Measure J, CC RTPC
Add new northbound on-ramp and southbound off-ramp to SR 242 from Clayton Road	RTP, CMP, Measure J, CC RTPC, General Plan
Reconstruction of ramps to SR 4 from Willow Pass Road	RTP, CMP, Measure J, CC RTPC
Improvements to the intersection of Clayton Road and Treat Boulevard	RTP, CMP, CC RTPC
Extension of James Donlon Boulevard to Kirker Pass Road	RTP, CMP, EC RTPC
Construction of truck climbing lane and bike lane on Kirker Pass Road from Clearbrook Drive to crest of Kirker Pass Road	STIP, RTIP, RTP, CMP, CC RTPC
Add east and westbound lanes to SR 4, west of Port Chicago Highway to the east of Willow Pass Road	RTP, CMP
Local street operations and maintenance	RTP, CMP, Measure J
Widen Willow Pass Road, Lynwood Drive to SR 4	CMP
Widening of Ygnacio Valley Road/Kirker Pass Road from Michigan Boulevard to Cowell Road	RTP, CMP, CC RTPC, General Plan
Repaving of a section of Concord Boulevard from Port Chicago Highway to 6th Street and Ayers Road to Kirker Pass Road. Concord Boulevard Complete Streets, Ayers Road to Kirker Pass Road.	CMP
Widening of Evora Road	CMP, General Plan
Traffic improvements along Bailey Road in Concord	CMP, CC RTPC
Concord BART station bicycle and pedestrian improvements	STIP, RTIP, CMP

Table 3.11-1 Proposed Transportation Projects Near NWS Concord

Project	Program or Plan Proposing the Project
Bicycle and pedestrian improvements on Detroit Avenue in Concord	STIP, CMP
Waterworld Parkway Bridge over Walnut Creek in Concord	CMP, Measure J
Bates Avenue/Commercial Circle Traffic Signal in Concord	CMP
Commerce Avenue Extension between Pine Creek and Waterworld Parkway, Concord	CMP
Galindo Corridor multi-modal improvements from Concord Blvd. to Clayton Road	CMP
Widen Farm Bureau Road, Walnut Avenue to Clayton Road	CMP
Implement Concord Citywide Trail Master Plan	CMP
Various Concord pedestrian improvements, streetscape projects, and trail connection projects	CMP

Sources: CCTA 2015, c; ABAG and the MTC 2013, 2016; CTC 2016; Caltrans 2016b; City of Concord 2012.

Key:

CC RTPC	=	Central Costa County Regional Transportation Planning Committee Action Plan
CMP	=	Congestion Management Program
EC RTPC	=	Eastern Contra Costa County Regional Transportation Planning Committee Action Plan
General Plan	=	Concord 2030 General Plan
HOV	=	high-occupancy vehicle
Measure J	=	Contra Costa County local transportation sales tax
RTIP	=	Regional Transportation Improvement Program
RTP	=	Regional Transportation Plan
SHOPP	=	State Highway Operating and Protection Program
STIP	=	State Transportation Improvement Program

Plan Bay Area identifies the former NWS Concord as a Priority Development Area, where the region expects to see transit-oriented and infill development that will accommodate the majority of future growth. In Contra Costa County, 70 percent of funding through the One Bay Area Grant must be invested in Priority Development Areas (ABAG and the MTC 2013). The One Bay Area Grant is a program managed by MTC that provides a share of the region's federal transportation funding to communities for local street preservation, bicycle and pedestrian access improvements, planning activities, and other specific transportation programs. A project that receives funding through the One Bay Area Grant is also included in the RTIP/STIP.

Plan Bay Area will be updated every four years. Plan Bay Area 2040, the update to Plan Bay Area 2013, is under development and builds on previous work to develop an efficient transportation network, provide housing choices, and outline a roadmap for growth that is both financially and environmentally responsible. Adoption of Plan Bay Area 2040 is expected in September 2017 (MTC 2017b).

California's Proposition 111 was passed in 1990 and specified that each county designate a congestion-management agency to implement programs to manage traffic levels. The CCTA is designated as the congestion-management agency for Contra Costa County and is responsible for coordinating land use, air quality, and transportation planning and for preparing and updating the county's Congestion Management Program (CMP) every two years (CCTA 2013a). The 2013 CMP identifies LOS standards for state highways and principal arterials including I-680, SR 4, SR 242, and sections of Clayton Road, Treat Boulevard, Kirker Pass Road, and Ygnacio Valley Road near the former NWS Concord. Performance measures are also identified for these key roadways in addition to performance measures for transit service in the County. The CMP also included a 7-year capital improvement program. Projects must be included in the CMP in order to be included in the RTIP/STIP. Adopted in December 2015, the 2015 CMP is an update of the Contra Costa Congestion Management Program. LOS standards for state highways and principal arterials near the former NWS Concord in the 2013 CMP remain the same in the 2015 CMP except at the intersection of Ayers Road and Ygnacio Valley Road (see Table 4.11-6) (CCTA 2015). Projects near the former NWS Concord identified in the 2015 CMP are presented in Table 3.11-1.

The CCTA is also responsible for managing the county's transportation sales tax program. In 2004, Contra Costa voters approved Measure J, a law to extend a sales tax under Measure C for an additional 25 years beyond Measure C's 2009 expiration. Measure C was a 0.5-percent transportation sales tax in Contra Costa County passed in 1988. Measure J continues the half-cent transportation sales tax to fund voter-approved transportation programs and projects (CCTA 2013b). The measure is expected to provide $2.5 billion for countywide and local transportation projects. The CCTA updates its Strategic Plan, the blue print for the delivery of projects included in the Measure J Expenditure Plan, approximately every two years. The Measure J Strategic Plan was updated in 2016 (CCTA 2016). Planned projects expected to receive funding under Measure J near the former NWS Concord are presented in Table 3.11-1 (CCTA 2013c).

As part of Measure J, RTPCs must develop an action plan for Routes of Regional Significance and establish multimodal transportation service objectives (MTSOs) for those routes (TRANSPLAN 2009). Criteria for Routes of Regional Significance include:

- Connecting two or more subareas of Contra Costa County;
- Entering or leaving the county;
- Carrying a significant amount of through-traffic; or
- Providing access to a regional facility.

MTSOs include quantifiable measures of effectiveness for attaining transportation objectives. TRANSPAC is the designated RTPC in central Contra Costa County, including the City of Concord (TRANSPAC 2009). TRANSPLAN is the RTPC for eastern Contra Costa County, which includes the area just east of the former NWS Concord (TRANSPLAN 2009). MTSOs in both eastern Contra Costa County and central Contra Costa County action plans use a delay index for freeways of regional significance. The eastern Contra Costa County action plan MTSO for freeways also includes a utilization of high-occupancy lanes. The MTSOs were incorporated into this traffic analysis and are discussed in more detail in the *Transportation Impact Study: Former Naval Weapons Station Seal Beach Detachment Concord* (Kittelson & Associates, Inc., 2016) completed for this EIS (see Appendix H) and in Section 3.11.2, Roadway Network. Table 3.11-1 shows projects near the former NWS Concord recommended in the eastern and central county action plans.

Local

The City of Concord Department of Public Works is responsible for maintaining the city's street infrastructure, including curbs, gutters, sidewalks, street lighting, and traffic control devices (City of Concord Department of Public Works 2013). The city's 2030 General Plan includes a transportation section that addresses future development potential and necessary improvements to the city's transportation system to accommodate the new development. The 2030 General Plan was amended in 2012 to include the Area Plan for the Concord Reuse Project. Suggested transportation improvements near the former NWS Concord are presented in Table 3.11-1. Additional transportation projects are proposed as part of the Concord Reuse Project (City of Concord 2012).

The California Mitigation Fee Act (Government Code 66000-66020) allows the city to levy transportation impact fees on new development. An off-site street improvement program is included in the City of Concord's municipal code to administer transportation impact fees. The off-site street improvement program levies a fee on future development outside of the Concord Reuse Project site to partially fund transportation improvements identified in the 2030 General Plan that will accommodate growth and maintain LOS benchmarks (City of Concord 2014).

3.11.2 Roadway Network

The City of Concord and surrounding Contra Costa County are served by several major highways, including I-680, SR 4, and SR 242, and an extensive street network made up of arterial and local roads.

The former NWS Concord is located on the eastern side of the City of Concord, in central Contra Costa County. The northwest portion of the former NWS Concord is crossed by SR 4, east of its interchanges with I-680 and SR 242. Willow Pass Road crosses the site in a northeasterly direction and accesses SR 4 just north of the site. Bailey Road crosses the southeast portion of the site in a northeasterly direction. The North Concord/Martinez BART Station is located on the western edge of the site, off Port Chicago Highway. Several access roads provide circulation around the site. The roadway network of the study area is graphically presented on Figure 3.11-1. The principal roadways and intersections in the vicinity of the former NWS Concord site are described below.

I-680 is the primary north-south freeway in central Contra Costa County near the City of Concord. I-680 begins at an interchange with I-80 in Fairfield, Solano County, north of Contra Costa County and travels south to its terminus at U.S. Highway 101 in the City of San Jose. The freeway runs along the west side of the city of Concord and intersects with SR 4 in unincorporated Contra Costa County near the northwestern corner of the city. The number of lanes on I-680 within the study area varies from seven lanes north of SR 4 to 12 lanes north of Monument Boulevard.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\Traffic_new_2014_08_08_rev1.mxd

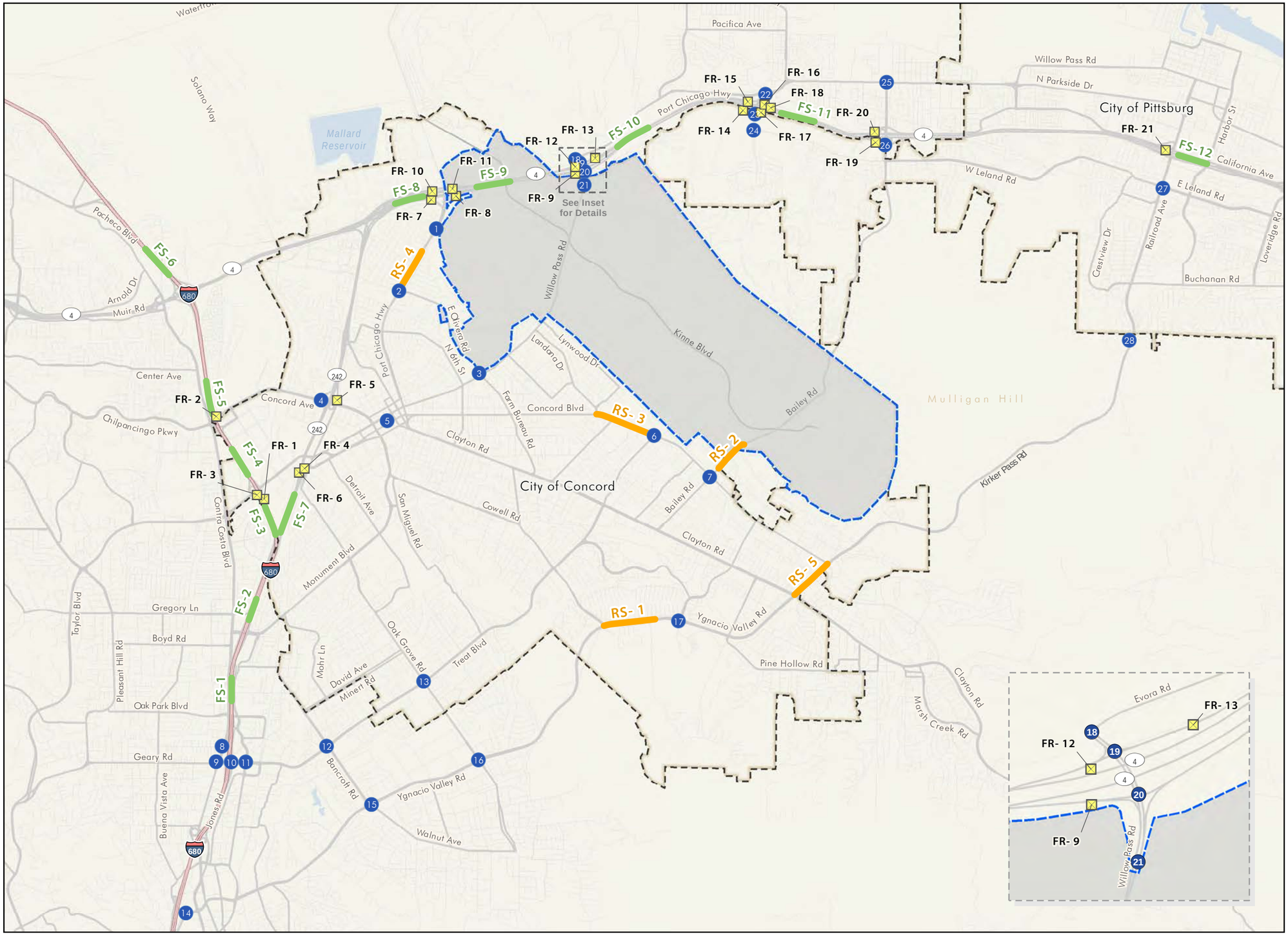


Figure 3.11-1
Study Locations
Former NWS Concord
Concord, California

Legend
- Former NWS Concord
- City Limits
- Waterbody
- County Boundary

Traffic Study Intersections and Roadways
- Freeway Ramp
- Intersection
- Study Roadways
- Freeway Segments

SCALE
0 0.5 1 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2004, 2011; Kittelson 2014.

This page intentionally left blank.

SR 4 is the primary west-east route in northern Contra Costa County. SR 4 begins just west of an interchange with I-80 west of Concord in Hercules and runs east to an interchange with SR 160 before winding west past the City of Stockton to its terminus at SR 99 near the California/Nevada state border. The freeway crosses the northwest end of the former NWS Concord site. Access to SR 4 from the former NWS Concord is available to the north, off of Port Chicago Highway and Willow Pass Road. SR 4 varies from a four-lane divided highway (east of I-680), to a six-lane highway (east of Arnold Industrial Way), to a nine-lane highway (east of Willow Pass Road), and then returns to a four-lane highway at Railroad Avenue in Pittsburg.

SR 242 is a main north-south route that runs between I-680 to the southwest and SR 4 to the northwest of the former NWS Concord. SR 242 is a six-lane highway with direct ramp access near the site provided on Olivera Road.

The western segment of Willow Pass Road is a two-lane arterial that begins at I-680 in Pleasant Hill and then traverses the former NWS Concord in a northeasterly direction before terminating at its interchange with Evora Road just north of SR 4 in the City of Concord. Willow Pass Road provides ramp access to SR 4 north of the property. The eastern segment of Willow Pass Road extends northeast from SR 4 to central Pittsburg, where it continues as W. 10th Street. South of SR 4, it is named San Marco Boulevard.

Bailey Road is a two-lane arterial that traverses the southern portion of the site in a northeasterly direction from Clayton Road in the City of Concord, south of the former NWS Concord, to Willow Pass Road in Pittsburg.

Concord Boulevard is an arterial road near the western edge of the site. The road begins at the intersection of Clayton Road and Sutter Street, just east of SR 242 near downtown Concord. The roadway continues in a southeasterly direction southwest of the site to just past Kirker Pass Road, where it continues as Oakhurst Drive.

Port Chicago Highway is a semi-circular route west of the former NWS Concord that begins at Clayton Road, in central Concord, and continues north to the northwestern edge of the former NWS Concord site. The road continues north before turning east and terminating at Willow Pass Road in Pittsburg. The road provides access to the northwest portion of the site and ramp access to SR 4 just north of the North Concord/Martinez BART Station.

Kirker Pass Road/Railroad Avenue/Ygnacio Valley Road is a major corridor extending between I-680 in Walnut Creek and SR 4 in Pittsburg. The roadway does not provide direct access to the former NWS Concord but serves as one of the few west-to-east arterials south of the site. The segment in Pittsburg is called Railroad Avenue. As it traverses through unincorporated Contra Costa County and Concord southeast of the property, the segment is known as Kirker Pass Road. South of Clayton Road in Concord, the name changes to Ygnacio Valley Road. The segment south of the property is primarily two lanes in each direction with a center median.

Treat Boulevard runs almost parallel with Ygnacio Valley Road from Clayton Road in Concord to North Main Street west of I-680, where it becomes Geary Road and continues through Pleasant Hill. North of Clayton Road, it becomes Denkinger Road and terminates at the former NWS Concord site boundary.

A traffic analysis of existing traffic conditions in the vicinity of the former NWS Concord was conducted as part of this EIS to evaluate the potential impacts from the disposal and reuse of the former NWS Concord property. The study area for the transportation impact analysis included 5 roadway segments, 12 freeway segments, 21 freeway ramps, and 28 intersections. The locations of these roadways, freeways, ramps, and intersections are shown on Figure 3.11-1. The following summarizes the existing conditions

as presented in the *Transportation Impact Study: Former Naval Weapons Station Seal Beach Detachment Concord* (Kittelson & Associates, Inc. 2016), which is included in Appendix H.

The study area identified for this traffic analysis relied on locations previously studied during the City of Concord's CEQA EIR. Locations included in scoping comments and analyzed in previous studies were considered for inclusion in this study area. This ensured a broad scope of consideration in the process of selecting intersections and segments that adequately represent the study area. Previous plans reviewed included:

- The FEIR Addendum (City of Concord January 2012a),
- The FEIR (City of Concord 2010), and
- The DEIR (City of Concord 2008).

The locations analyzed in the 2010 FEIR served as the starting point of the study location selection process as the locations were well-vetted through the City of Concord's public outreach effort. The selection of analysis locations for the EIR was based on the locations as discussed and reviewed with the City of Concord traffic engineer, and these included consideration of intersections to which 25 or more project trips would be added, regional routes to which 50 or more trips would be added, and freeways to which 50 or more project trips would be added, in accordance with CCTA and city guidelines. The locations analyzed in the 2010 FEIR were reviewed by public and agency stakeholders during the City of Concord's public review process as part of the CEQA review. As a result of extensive information and feedback received from agency and other stakeholders during this public review process, the City of Concord expanded the list of study intersections; the original list of 45 intersections in the Concord Community Reuse Project Draft EIR was expanded to 62 in the 2010 FEIR. The number of study roadway segments also increased by one.

Alternative 1 is based on the land use and roadway network assumed on the former NWS Concord site in the 2012 FEIR Addendum, which in turn represents refinement of the assumptions used for the Preferred Project in the 2010 FEIR. However, because the locations studied in the 2012 FEIR Addendum were a subset of those studied in the 2010 FEIR, the use of the 2010 FEIR locations ensures broader consideration in the selection process. No location was identified in the 2012 FEIR Addendum to exceed the performance threshold that was not identified in the 2010 FEIR. The roadway and networks of Alternative 2 are similar to those of Alternative 1.

The number of locations to be addressed in the *Transportation Impact Study: Former Naval Weapons Station Seal Beach Detachment Concord* was further narrowed by focusing on the following factors:

- Locations that would operate below LOS thresholds and worse than existing conditions under the Preferred Alternative in the 2010 FEIR;
- Intersections that would operate within 0.05 of volume-to-capacity ratio (v/c) of the LOS thresholds under the Preferred Alternative in the 2010 FEIR; and
- Intersections specifically mentioned in scoping comments for the proposed action.

Locations that would operate below performance thresholds and worse than existing conditions are not necessarily locations identified to have significant impacts in the respective analyses. In some instances, the project would improve the level of service or would reduce the v/c as compared to future no-project (no action) conditions. The proposed study locations include all locations that meet the above criteria in the 2010 FEIR, not only those that have been identified to have significant impacts.

Intersections that would operate within 0.05 v/c of the performance thresholds in the 2010 FEIR were also selected for inclusion in the analysis. While these locations were not shown to operate below standards, their v/c ratios were close enough to the thresholds that they could potentially be exceeded under the proposed action. Their inclusion provides a buffer to ensure locations that could potentially be adversely impacted were studied.

Finally, a number of intersections along Concord Boulevard were specifically identified as locations of concern through the scoping process. To ensure such concerns are addressed, those intersections are also included for analysis.

For freeway segments, the selection considered the volumes on freeway segments (ranging from 2,150 to almost 10,000 vehicles) and performance thresholds to determine significance. As previously stated, the 2008 DEIR and the 2010 FEIR freeway analysis segments were selected where 50 or more project trips were added. The selection of freeway segments for this study was based on review of the analysis for the 19 freeway segments from the 2010 FEIR and selection of locations that were impacted or were approaching the performance thresholds. The selection of ramp locations was based on a subset of the 40 ramps analyzed in the FEIR that were found to exceed performance thresholds. Low-capacity facilities where performance thresholds were not exceeded in the 2010 FEIR were screened out through this selection process.

This selection process identified five roadway segments, 12 freeway segments, 21 freeway ramps, and 28 intersections for analysis (see Table 3.11-2). Using the same criteria, the SR 4, SR 242, and I-680 freeway corridors designated as Routes of Regional Significance have been identified for evaluation based on the relevant performance metrics, specifically MTSOs. All 14 intersections on the RRS are part of the 28 intersections selected for analysis (see Table 3.11-2). The specific locations and extents of selected segments for the Routes of Regional Significance are based on the specific MTSO for that corridor. The locations of the study roadways and intersections are shown on Figure 3.11-1.

Table 3.11-2 Study Locations

ID	Study Location
Roadway Segments	
RS 1	Ygnacio Valley Road e/o Cowell Road
RS 2	Bailey Road e/o Concord Boulevard
RS 3	Concord Boulevard w/o Denkinger Road
RS 4	Port Chicago Highway n/o Olivera Road
RS 5	Kirker Pass Road s/o Myrtle Drive
Freeway Segments	
FS 1	I-680 s/o Monument Boulevard
FS 2	I-680 n/o Monument Boulevard
FS 3	I-680 n/o SR 242
FS 4	I-680 n/o Willow Pass Road
FS 5	I-680 n/o Concord Avenue
FS 6	I-680 n/o SR 4
FS 7	SR 242 n/o I-680
FS 8	SR 4 e/o SR 242
FS 9	SR 4 e/o Port Chicago Highway
FS 10	SR 4 e/o Willow Pass Road
FS 11	SR 4 e/o San Marco Boulevard
FS 12	SR 4 e/o Railroad Avenue

Table 3.11-2 Study Locations

ID	Study Location
Freeway Ramps	
Interstate 680	
FR 1	Willow Pass Road NB off-ramp
FR 2	Concord Avenue WB to NB on-ramp
FR 3	Willow Pass Road EB to SB on-ramp
State Route 242	
FR 4	Clayton Road NB off-ramp
FR 5	Concord Avenue EB to NB on-ramp
FR 6	Clayton Road SB on-ramp
State Route 4	
FR 7	Port Chicago Highway EB off-ramp
FR 8	Port Chicago Highway EB on-ramp
FR 9	Willow Pass Road EB off-ramp
FR 10	Port Chicago Highway WB on-ramp
FR 11	Port Chicago Highway WB off-ramp
FR 12	Willow Pass Road WB on-ramp
FR 13	Willow Pass Road WB off-ramp
FR 14	San Marco Boulevard EB off-ramp
FR 15	SB San Marco Boulevard WB on-ramp
FR 16	NB San Marco Boulevard WB on-ramp
FR 17	NB San Marco Boulevard EB on-ramp
FR 18	San Marco Boulevard WB off-ramp
FR 19	SB Bailey Road EB off-ramp
FR 20	Bailey Road WB on-ramp
FR 21	Railroad Avenue WB on-ramp
Intersections	
Int 1	Port Chicago Highway/Panoramic Drive
Int 2	Port Chicago Highway/Olivera Road
Int 3	Farm Bureau Road/Willow Pass Road
Int 4	Commerce Avenue - SR 242 SB/Concord Avenue
Int 5	West Street/Concord Boulevard
Int 6	Denkinger Road/Concord Boulevard
Int 7	Bailey Road/Concord Boulevard
Int 8	North Main Street/Sunnyvale Avenue - SB I-680 ramps
Int 9[1]	North Main Street/Geary Road
Int 10	Buskirk Avenue - NB I-680 Off Ramp/Treat Boulevard
Int 11	Oak Road/Treat Boulevard
Int 12[1]	Bancroft Road/Treat Boulevard
Int 13	Oak Grove Road/Treat Boulevard
Int 14	NB I-680 Off Ramp/Ygnacio Valley Road
Int 15[1]	Walnut Avenue-Bancroft Road/Ygnacio Valley Road
Int 16	Oak Grove Road/Ygnacio Valley Road
Int 17	Ayers Road/Ygnacio Valley Road
Int 18[1]	Willow Pass Road/Evora Road (West)
Int 19[1]	Willow Pass Road/SR 4 WB ramps
Int 20[1]	Willow Pass Road/SR 4 EB ramps
Int 21[1]	Willow Pass Road/Avila Road

Table 3.11-2 Study Locations

ID	Study Location
Int 22[1]	Willow Pass Road/Evora Road (East) - SR 4 WB off-ramp
Int 23[1]	San Marco Boulevard-Willow Pass Road/SR 4 EB ramps
Int 24[1]	San Marco Boulevard/W Leland Road
Int 25[1]	Bailey Road/Willow Pass Road
Int 26[1]	Bailey Road/SR 4 EB ramps - BART access
Int 27[1]	Railroad Avenue/W Leland Road
Int 28[1,2]	Kirker Pass Road/James Donlon Boulevard

[1] Intersections on the RRS.
[2] Int 28 is a proposed intersection and does not currently exist.

Key:
EB = eastbound
NB = northbound
SB = southbound
WB = westbound

3.11.3 Existing Traffic Volumes

Information on current traffic volumes and operations was taken from existing Caltrans data, manual turn movement counts, and machine counts. Peak-hour traffic counts for the freeway segments and freeway ramps for SR 4 and SR 242 were collected in February 2013 as part of a ramp-metering study conducted for MTC. Peak-hour traffic volumes for I-680 were taken from the Caltrans Performance Measurement System (PeMs) and from Caltrans' most recently available (2012) estimate of average daily traffic for the freeway mainline and ramps. Manual turning movements at intersections were counted in June 2013 for this analysis as presented in the Transportation Impact Study (Kittelson & Associates, Inc., 2016) completed for this EIS (Appendix H). Peak-hour traffic volumes for road segments were derived from adjacent intersection turning movement counts that were applicable or from machine counts on roadway segments collected in June 2013 (Kittelson & Associates, Inc. 2016).

Existing peak-hour traffic volumes for roadway segments are presented in Table 3.11-3. Peak hours typically occurred between 7:00 AM and 9:00 AM and between 4:00 PM and 6:00 PM. Traffic volumes were highest during the evening peak hours for four of the road segments. Bailey Road had higher morning peak-hour volumes and had the lowest peak-hour volumes overall. Ygnacio Valley Road had the highest volumes during both peak hours of the road segments studied.

Table 3.11-3 Existing Roadway Segment Peak-Hour Traffic Volumes

ID	Link	Location	Number of Lanes	Peak-Hour Volume[1]	
				AM	PM
RS 1	Ygnacio Valley Road	East of Cowell Road	4	3,074	3,243
RS 2	Bailey Road	East of Concord Boulevard	2	924	700
RS 3	Concord Boulevard	West of Denkinger Road	4	1,739	1,926
RS 4	Port Chicago Highway	North of Olivera Road	2	1,009	1,223
RS 5	Kirker Pass Road	South of Myrtle Drive	6	2,292	2,323

Source: Kittelson & Associates, Inc. 2016.

[1] Volume shown is two-way volume for the roadway segment.

Table 3.11-4 presents peak-hour traffic volumes for freeway segments, and Table 3.11-5 presents traffic volumes for freeway ramps. Morning peak hour volumes for I-680 northbound ranged from 3,044

vehicles north of SR 4 to 7,592 vehicles north of Monument Boulevard. Northbound traffic during the evening peak hour was typically higher and ranged from 4,821 vehicles north of SR 4 to 9,676 vehicles north of Monument Boulevard. Southbound traffic was generally higher during the morning peak hour, ranging between 4,867 vehicles north of Concord Avenue to 8,702 vehicles north of Monument Boulevard. Evening peak-hour traffic on southbound I-680 ranged from 4,075 vehicles north of Concord Avenue to 7,286 vehicles north of Monument Boulevard.

Table 3.11-4 Freeway Segment Peak-Hour Traffic Volumes

ID	Freeway Name	Direction	Number of Lanes		Peak-Hour Volume	
			Freeway	Aux[1]	AM	PM
Interstate 680						
FS 1	I-680 s/o Monument Boulevard	NB	5	1	7,433	9,553
		SB	6	1	8,592	7,194
FS 2	I-680 n/o Monument Boulevard	NB	6	0	7,529	9,676
		SB	6	0	8,702	7,286
FS 3	I-680 n/o SR 242	NB	4	0	4,339	5,576
		SB	4	1	5,015	4,199
FS 4	I-680 n/o Willow Pass Road	NB	4	1	4,275	5,494
		SB	4	1	4,941	4,137
FS 5	I-680 n/o Concord Avenue	NB	4	0	4,211	5,412
		SB	4	1	4,867	4,075
FS 6	I-680 n/o SR 4	NB	4	0	3,044	4,821
		SB	4	1	4,969	4,230
State Route 242						
FS 7	SR 242 n/o I-680	NB	3	0	3,120	5,329
		SB	3	0	4,684	3,015
State Route 4						
FS 8	SR 4 e/o SR 242	EB	4	0	2,150	6,341
		WB	2	0	5,111	2,208
FS 9	SR 4 e/o Port Chicago Highway	EB	4	0	3,282	7,029
		WB	4	0	6,889	3,007
FS 10	SR 4 e/o Willow Pass Road	EB	5	0	3,148	7,945
		WB	4	0	8,490	3,359
FS 11	SR 4 e/o San Marco Boulevard	EB	4	0	3,025	6,633
		WB	4	0	8,733	3,524
FS 12	SR 4 e/o Railroad Avenue	EB	4	0	4,836	4,113
		WB	4	0	2,945	3,225

Source: Kittelson & Associates, Inc. 2016.

[1] Aux = auxiliary lane used for traffic entering and exiting the freeway via ramps.

Key:
e/o = east of
EB = eastbound
n/o = north of
NB = northbound
s/o = south of
SB = southbound
WB = westbound

Table 3.11-5 Freeway Ramp Peak-Hour Traffic Volumes

ID	Ramp	Peak-Hour Volume AM	Peak-Hour Volume PM
Interstate 680			
FR 1	Willow Pass Road NB off-ramp	1,019	1,075
FR 2	Concord Avenue WB to NB on-ramp	193	374
FR 3	Willow Pass Road EB to SB on-ramp	441	744
State Route 242			
FR 4	Clayton Road NB off-ramp	859	1,420
FR 5	Concord Avenue EB to NB on-ramp	633	577
FR 6	Clayton Road SB on-ramp	768	900
State Route 4			
FR 7	Port Chicago Highway EB off-ramp	620	380
FR 8	Port Chicago Highway EB on-ramp	136	688
FR 9	Willow Pass Road EB off-ramp	379	604
FR 10	Port Chicago Highway WB on-ramp	218	445
FR 11	Port Chicago Highway WB off-ramp	826	289
FR 12	Willow Pass Road WB on-ramp	762	477
FR 13	Willow Pass Road WB off-ramp	519	312
FR 14	San Marco Boulevard EB off-ramp	421	1,457
FR 15	SB San Marco Boulevard WB on-ramp	1,082	409
FR 16	NB San Marco Boulevard WB on-ramp	632	216
FR 17	NB San Marco Boulevard EB on-ramp	89	37
FR 18	San Marco Boulevard WB off-ramp	113	273
FR 19	SB Bailey Road EB off-ramp	145	583
FR 20	Bailey Road WB on-ramp	976	320
FR 21	Railroad Avenue WB on-ramp	1,604	853

Source: Kittelson & Associates, Inc. 2016

Key:
EB = eastbound
NB = northbound
SB = southbound
WB = westbound

The segment of SR 242 north of I-680 had traffic volumes ranging from 3,120 northbound vehicles to 4,684 southbound vehicles during the morning peak hour, and 3,015 southbound vehicles to 5,329 northbound vehicles during the evening peak hour.

Morning peak hour volumes on SR 4 eastbound ranged from 2,150 vehicles east of SR 242 to 4,836 vehicles east of Railroad Avenue. Morning peak-hour traffic volumes on SR 4 westbound ranged from 2,945 vehicles east of Railroad Avenue to 8,733 vehicles east of San Marco Boulevard. Traffic volumes during the evening peak hour on eastbound SR 4 were between 4,113 east of Railroad Avenue and 7,945 east of Willow Pass Road. Westbound traffic volumes during the evening peak hour were between 2,208 vehicles east of SR 242 and 3,524 vehicles east of San Marco Boulevard. Westbound peak-hour volumes were generally twice as high during the morning, and eastbound peak-hour volumes were twice as high during the evening.

All of the I-680 freeway ramps studied had higher evening peak-hour volumes, while the peak-hour volume varied for SR 4 and SR 242. Peak-hour volumes for I-680 ramps ranged from 193 vehicles during

the morning peak hour on the northbound on-ramp from Concord Avenue to 1,075 vehicles during the evening peak hour on the northbound off-ramp to Willow Pass Road. Traffic volumes on SR 242 were between 577 during the evening peak hour on the northbound on-ramp from Concord Avenue and 1,420 on the Clayton Road northbound off-ramp during the evening peak hour. The morning peak-hour volumes for SR 4 ranged from 89 vehicles on the eastbound on-ramp from San Marco Boulevard to 1,604 vehicles on the westbound on-ramp from Railroad Avenue. Evening peak-hour volumes were between 37 vehicles on the eastbound on-ramp from San Marco Boulevard to 1,457 vehicles on the eastbound off-ramp to San Marco Boulevard.

Table 3.11-6 presents peak-hour traffic volumes at intersections based on traffic counts obtained in 2007 and in 2013. Existing traffic conditions in the Reuse Plan EIR were based on traffic counts in 2007; traffic counts were updated in June 2013 at the same intersections to support the analysis in this EIS. The 2013 counts represent an overall decrease in volumes at the analyzed intersections when compared to the 2007 counts for the same intersections, with a few exceptions where the total intersection volumes increased in 2013. The decrease in traffic volumes between 2007 and 2013 appears to be primarily related to the economic conditions in these time periods. The 2007 counts precede the economic downturn associated with the recession. While the economic recovery appears to have been complete by 2013 in other parts of the region, particularly San Francisco and Silicon Valley, the 2013 counts used for the EIS indicate that the local economy had not fully returned to pre-recession conditions. Therefore, the lower traffic counts in 2013 appear related to fewer worker commutes due to lower employment.

Table 3.11-6 Intersection Peak-Hour Traffic Volumes

ID	Intersection	Peak Hour	2007 Peak-Hour Volume (Reuse Plan EIR)	2013 Peak-Hour Volume (EIS)
Int 1	Port Chicago Highway/Panoramic Drive	AM	2,363	1,805
		PM	2,233	1,917
Int 2	Port Chicago Highway/Olivera Road	AM	2,572	1,404
		PM	2,519	2,061
Int 3	Farm Bureau Road/Willow Pass Road	AM	2,614	2,590
		PM	2,736	2,590
Int 4	Commerce Avenue – SR 242 SB/Concord Avenue	AM	4,420	3,692
		PM	4,879	4,364
Int 5	West Street/Concord Boulevard	AM	2,817	2,496
		PM	2,138	2,110
Int 6	Denkinger Road/Concord Boulevard	AM	2,900	1,971
		PM	2,200	2,133
Int 7	Bailey Road/Concord Boulevard	AM	2,454	2,148
		PM	2,188	2,177
Int 8	North Main Street/Sunnyvale Avenue - SB I-680 ramps	AM	3,679	3,192
		PM	3,855	3,412
Int 9	North Main Street/Geary Road	AM	5,652	4,343
		PM	6,104	4,860
Int 10	Buskirk Avenue-NB I-680 Off-Ramp/Treat Boulevard	AM	6,103	4,595
		PM	6,178	4,987
Int 11	Oak Road/Treat Boulevard	AM	6,437	4,785
		PM	7,718	5,376
Int 12	Bancroft Road/Treat Boulevard	AM	6,010	5,244
		PM	5,871	5,293

Table 3.11-6 Intersection Peak-Hour Traffic Volumes

ID	Intersection	Peak Hour	2007 Peak-Hour Volume (Reuse Plan EIR)	2013 Peak-Hour Volume (EIS)
Int 13	Oak Grove Road/Treat Boulevard	AM	6,950	4,792
		PM	5,264	4,616
Int 14	NB I-680 Off Ramp/Ygnacio Valley Road	AM	6,697	4,345
		PM	5,841	4,724
Int 15	Walnut Avenue-Bancroft Road/Ygnacio Valley Road	AM	5,797	5,403
		PM	6,349	6,460
Int 16	Oak Grove Road/Ygnacio Valley Road	AM	4,339	4,564
		PM	4,913	4,935
Int 17	Ayers Road/Ygnacio Valley Road	AM	3,661	3,376
		PM	3,995	3,979
Int 18	Willow Pass Road/Evora Road (West)	AM	1,102	1,285
		PM	863	1,058
Int 19	Willow Pass Road/SR 4 WB ramps	AM	2,001	2,422
		PM	1,210	1,461
Int 20	Willow Pass Road/SR 4 EB ramps	AM	2,019	1,484
		PM	2,023	2,065
Int 21	Willow Pass Road/Avila Road	AM	1,889	1,889
		PM	1,665	1,590
Int 22	Willow Pass Road/Evora Road (East)-SR 4 WB off-ramp	AM	2,476	2,585
		PM	2,026	1,999
Int 23	San Marco Boulevard - Willow Pass Road/SR 4 EB ramps	AM	1,732	2,087
		PM	1,910	2,306
Int 24	San Marco Boulevard/W Leland Road	AM	1,591	2,304
		PM	1,248	1,478
Int 25	Bailey Road/Willow Pass Road	AM	1,896	1,516
		PM	1,892	1,886
Int 26	Bailey Road/SR 4 EB ramps - BART access	AM	2,421	2,318
		PM	3,592	3,491
Int 27	Railroad Avenue/W Leland Road	AM	3,523	2,308
		PM	5,176	4,044
Int 28	Kirker Pass Road/James Donlon Boulevard[1]	AM	n/a	n/a
		PM	n/a	n/a

Source: Kittelson & Associates, Inc. 2016

[1] Int 28 is a proposed intersection and does not currently exist.

Key:
EB = eastbound
NB = northbound
SB = southbound
WB = westbound

3.11.4 Existing Traffic Operations

An analysis was conducted to evaluate the capacity of each roadway and freeway segment, freeway ramp, and intersection to accommodate current traffic volumes. The analysis characterized capacities based on their LOS. LOS is a qualitative measure that describes the general operating conditions of the roadway or

freeway segment, freeway ramp, or intersection using factors such as speed, travel times, and delays. LOS is calculated using the volume-to-capacity (v/c) ratio. The v/c ratio is the traffic volume divided by the capacity of the signalized intersection, segment, or facility. LOS is reported on a scale of "A" to "F," with "A" representing adequate operating conditions and free-flowing traffic and "F" representing the worst operating conditions and significant delays. Detailed descriptions of the range of LOS are provided in Table 3.11-7.

Table 3.11-7 General Level of Service Description

LOS	Description
A	**Free Flow or Insignificant Delays:** Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.
B	**Stable Operation or Minimal Delays:** The ability to maneuver within the traffic stream is only slightly restricted, and control delay at signalized intersections is not significant.
C	**Stable Operation or Acceptable Delays:** The ability to maneuver and change lanes is somewhat restricted, and average travel speeds may be about 50 percent of the free-flow speed.
D	**Approaching Unstable or Tolerable Delays:** Small increases in flow may cause substantial increases in delay and decreases in travel speed.
E	**Unstable Operation or Significant Delays:** Significant delays may occur, and average travel speeds may be 33 percent or less of the free-flow speed.
F	**Forced Flow or Excessive Delays:** Congestion, high delays, and extensive queuing occur at critical signalized intersections with urban street flow at extremely low speeds.

Source: Transportation Research Board 2010.

Existing LOS was determined for road segments, freeway segments, freeway ramps, and intersections. Multimodal transportation service objectives identified in the central and eastern Contra Costa County action plans for freeways were also determined for existing conditions. LOS for signalized intersections was based on procedures from the Contra Costa County Technical Procedures Update, and unsignalized intersection LOS was based on procedures from the Transportation Research Board's Highway Capacity Manual (Transportation Research Board 2016). LOS for roadway segments was estimated using the Florida Department of Transportation's Quality/Level of Service Handbook, which was based on methodology from the 2010 Highway Capacity Manual. The Highway Capacity Manual is consistent with guidelines from Caltrans and was used to determine LOS for freeway segments and freeway ramps.

MTSOs established in the Eastern Contra Costa County Action Plan for Routes of Regional Significance and the Central Contra Costa County Action Plan for Routes of Regional Significance set different LOS thresholds for intersections of regional significance and were used in this analysis. The action plans also include additional MTSOs for freeways. Both action plans use a delay index for freeways of regional significance, and the East County Action Plan also includes utilization of high-occupancy vehicle (HOV) lanes.

All of the roadway segments studied currently operate between LOS D and LOS C and are within performance thresholds (see Table 3.11-8). Bailey Road (RS 2), Concord Boulevard (RS 3), and Kirker Pass Road (RS 5) operate at LOS D during the morning peak hour. The remaining roadway segments all operate at LOS C during the morning peak hour. Port Chicago Highway (RS 4) operates at LOS C during the evening peak hour, while all other roadway segments operate at LOS D during the evening peak hour.

Table 3.11-9 shows the existing LOS of the freeway segments analyzed. Two of the 12 freeway segments studied operate at LOS F in the westbound direction during the morning peak hour: SR 4 east of SR 242 (FS 8) and SR 4 east of San Marco Boulevard (FS 11). All of the I-680 and SR 242 freeway segments operate at LOS D or better during both peak hours.

The existing LOS for the freeway ramps analyzed is shown in Table 3.11-10. The majority of ramps currently operate at LOS D or better with the exception of five ramps on SR 4, which exceed performance thresholds. The westbound off-ramps to Port Chicago Highway (FR 11) and to Willow Pass Road (FR 13) from SR 4 and the westbound on-ramp from Willow Pass Road to SR 4 (FR 12) operate at LOS F during the morning peak hour. The eastbound off-ramp to San Marco Boulevard from SR 4 (FR 14) also operates at LOS F during the evening peak hour. The eastbound off-ramp to Willow Pass Road (FR 9) operates at LOS E during the evening peak hour.

Table 3.11-8 Roadway Segment Peak-Hour Level of Service

ID	Street Name	Number of Lanes	Class	AM Peak Hour			PM Peak Hour		
				Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
RS 1	Ygnacio Valley Road	4	I	3,074	0.82	C	3,243	0.51	D
RS 2	Bailey Road	2	II	924	0.77	D	700	0.58	D
RS 3	Concord Boulevard	4	II	1,739	0.57	D	1,926	0.63	D
RS 4	Port Chicago Highway	2	I	1,009	0.57	C	1,223	0.69	C
RS 5	Kirker Pass Road	6	II	2,292	0.50	D	2,323	0.51	D

Source: Kittelson & Associates, Inc. 2016.

[1] Volume shown is two-way volume for the roadway segment.

Key:
LOS = level of service
V/C = volume-to-capacity ratio

Table 3.11-9 Freeway Segment Peak-Hour Level of Service

ID	Freeway Name	Direction	AM Peak Hour		PM Peak Hour	
			V/C	LOS	V/C	LOS
Interstate 680						
FS 1	I-680 s/o Monument Boulevard	NB	0.64	C	0.82	D
		SB	0.62	C	0.52	B
FS 2	I-680 n/o Monument Boulevard	NB	0.58	C	0.75	D
		SB	0.67	C	0.56	C
FS 3	I-680 n/o SR 242	NB	0.50	B	0.65	C
		SB	0.53	B	0.44	B
FS 4	I-680 n/o Willow Pass Road	NB	0.45	B	0.58	C
		SB	0.57	C	0.48	B
FS 5	I-680 n/o Concord Avenue	NB	0.49	B	0.63	C
		SB	0.51	B	0.43	B
FS 6	I-680 n/o SR 4	NB	0.35	B	0.56	C
		SB	0.52	B	0.44	B
State Route 242						
FS 7	SR 242 n/o I-680	NB	0.48	B	0.82	D
		SB	0.72	C	0.47	B
State Route 4						
FS 8	SR 4 e/o SR 242	EB	0.25	A	0.74	C
		WB	**1.19**	**F**	0.51	B

Table 3.11-9 Freeway Segment Peak-Hour Level of Service

ID	Freeway Name	Direction	AM Peak Hour		PM Peak Hour	
			V/C	LOS	V/C	LOS
FS 9	SR 4 e/o Port Chicago Highway	EB	0.38	B	0.82	D
		WB	0.80	D	0.35	B
FS 10	SR 4 e/o Willow Pass Road	EB	0.33	B	0.84	D
		WB	0.99	E	0.39	B
FS 11	SR 4 e/o San Marco Boulevard	EB	0.35	B	0.77	D
		WB	**1.01**	**F**	0.41	B
FS 12	SR 4 e/o Railroad Avenue	EB	0.56	C	0.48	B
		WB	0.34	B	0.37	B

Source: Kittelson & Associates, Inc. 2016

Note: Bold font denotes exceedance of performance thresholds.

Key:

e/ o = east of
EB = eastbound
LOS = level of service
n/o = north of
NB = northbound
s/o = south of
SB = southbound
V/C = volume-to-capacity ratio
WB = westbound

The majority of the 28 intersections included in the analysis currently operate at an LOS of E or better during both morning and evening peak hours. As shown in Table 3.11-11, three of the intersections currently exceed performance thresholds. The intersections of Willow Pass Road and the SR 4 westbound ramps (Intersection 19) and Willow Pass Road and the SR 4 eastbound ramps (Intersection 20) are both unsignalized and operate at a morning peak-hour LOS of E and F, respectively. The signalized intersection of Bailey Road and the SR 4 eastbound ramps (Intersection 26) operates at LOS F during the evening peak hour.

Figures 3.11-2 and 3.11-3 illustrate the AM and PM peak hour level of service, respectively, at each study location.

The existing travel speed and delay index MTSO on the three freeways designated as Routes of Regional Significance are presented in Table 3.11-12 for central and eastern Contra Costa County. The HOV lane utilization MTSO for SR 4 in eastern Contra Costa County is shown in Table 3.11-13. The MTSO delay index threshold for SR 4 in eastern Contra Costa County is 2.5 and 5.0 in central Contra Costa County. The index delay threshold for I-680 and SR 242, respectively, in central Contra Costa County is 4.0 and 3.0. None of the freeways studied currently exceed the delay index standard. The MTSO for HOV utilization in eastern Contra Costa County calls for HOV utilization to exceed 600 vehicles per lane in the peak direction during the peak hour. SR 4 currently meets this threshold minimum.

3.11.5 Public Transportation

Several public transit options are available in the City of Concord and near the former NWS Concord. The Central Contra Costa Transit Authority, or County Connection, provides fixed-route and paratransit bus service in Concord and throughout Contra Costa County. County Connection has 38 fixed and express routes, with several routes providing service near the former NWS Concord, including routes 10, 15, 17, 28/627, and 93X (County Connection n.d.).

Table 3.11-10 Freeway Ramp Peak-Hour Level of Service

ID	Ramp	AM Peak Hour			PM Peak Hour		
		V/C	Density	LOS	V/C	Density	LOS
Interstate 680							
FR 1	Willow Pass Road NB off-ramp	0.68	29.36	D	0.75	32.24	D
FR 2	Concord Avenue WB to NB on-ramp	0.51	21.55	C	0.61	25.16	C
FR 3	Willow Pass Road EB to SB on-ramp	0.53	16.58	B	0.64	20.20	C
State Route 242							
FR 4	Clayton Road NB off-ramp	0.47	8.43	A	0.79	20.69	C
FR 5	Concord Avenue EB to NB on-ramp	0.49	13.42	B	0.73	21.83	C
FR 6	Clayton Road SB on-ramp	0.78	31.24	D	0.59	24.43	C
State Route 4							
FR 7	Port Chicago Highway EB off-ramp	0.25	10.71	B	0.73	28.97	D
FR 8	Port Chicago Highway EB on-ramp	0.24	12.65	B	0.78	31.74	D
FR 9	Willow Pass Road EB off-ramp	0.42	19.47	B	**0.86**	**36.34**	**E**
FR 10	Port Chicago Highway WB on-ramp	0.48	20.99	C	0.58	24.36	C
FR 11	Port Chicago Highway WB off-ramp	**1.08**	**44.57**	**F**	0.43	19.90	B
FR 12	Willow Pass Road WB on-ramp	**0.96**	**37.81**	**F**	0.41	18.37	B
FR 13	Willow Pass Road WB off-ramp	**1.01**	**41.98**	**F**	0.42	19.43	B
FR 14	San Marco Boulevard EB off-ramp	0.41	7.71	A	**1.09**	**33.35**	**F**
FR 15	SB San Marco Boulevard WB on-ramp	0.98	31.38	D	0.39	10.40	B
FR 16	NB San Marco Boulevard WB on-ramp	0.81	32.47	D	0.32	15.02	B
FR 17	NB San Marco Boulevard EB on-ramp	0.31	14.59	B	0.65	26.89	C
FR 18	San Marco Boulevard WB off-ramp	0.78	33.10	D	0.37	17.75	B
FR 19	SB Bailey Road EB off-ramp	0.35	9.62	A	0.75	24.62	C
FR 20	Bailey Road WB on-ramp	0.88	28.45	D	0.35	9.87	A
FR 21	Railroad Avenue WB on-ramp	0.88	34.45	D	0.42	18.49	B

Source: Kittelson & Associates, Inc. 2016.
Note: Bold font denotes exceedance of performance thresholds.

Key:
EB = eastbound
LOS = level of service
NB = northbound
SB = southbound
V/C = volume-to-capacity ratio
WB = westbound

Table 3.11-11 Intersection Peak-Hour Level of Service

ID	Intersection	Control	LOS Standard	AM Peak Hour		PM Peak Hour	
				LOS	v/c or Delay[1]	LOS	v/c or Delay[1]
Int 1	Port Chicago Highway/Panoramic Drive	Signal	E	A	0.38	A	0.40
Int 2	Port Chicago Highway/Olivera Road	Signal	E	B	0.65	B	0.69
Int 3	Farm Bureau Road/Willow Pass Road	Signal	E	B	0.66	B	0.67
Int 4	Commerce Avenue – SR 242 SB/Concord Avenue	Signal	E	A	0.59	C	0.75
Int 5	West Street/Concord Boulevard	Signal	E	A	0.53	A	0.49
Int 6	Denkinger Road/Concord Boulevard	Signal	E	A	0.45	A	0.53
Int 7	Bailey Road/Concord Boulevard	Signal	E	A	0.59	A	0.56
Int 8	North Main Street/Sunnyvale Avenue - SB I-680 ramps	Signal	F	D	0.81	C	0.10
Int 9	North Main Street/Geary Road	Signal	F	B	0.69	C	0.78
Int 10	Buskirk Avenue-NB I-680 Off- Ramp/Treat Boulevard	Signal	E	D	0.87	E	0.98
Int 11	Oak Road/Treat Boulevard	Signal	E	A	0.59	C	0.72
Int 12	Bancroft Road/Treat Boulevard	Signal	F	D	0.85	D	0.88
Int 13	Oak Grove Road/Treat Boulevard	Signal	E	C	0.80	B	0.70
Int 14	NB I-680 Off Ramp/Ygnacio Valley Road	Signal	E	E	0.93	E	0.99
Int 15	Walnut Avenue-Bancroft Road/Ygnacio Valley Road	Signal	F	C	0.76	C	0.78
Int 16	Oak Grove Road/Ygnacio Valley Road	Signal	F	E	0.91	D	0.85
Int 17	Ayers Road/Ygnacio Valley Road	Signal	E	E	0.91	D	0.84
Int 18	Willow Pass Road/Evora Road (West)	Signal	mid-D v/c 0.85	B	0.68	A	0.44
Int 19	Willow Pass Road/SR 4 WB ramps	All-way Stop	mid-D v/c 0.85	**E**	**41.8**	C	16.0
Int 20	Willow Pass Road/SR 4 EB ramps	All-way Stop	mid-D v/c 0.85	**F**	**70.2**	C	22.1
Int 21	Willow Pass Road/Avila Road	1-way Stop	mid-D v/c 0.85	A (B)	0.2 (13.9)	A (C)	0.4 (19.7)
Int 22	Willow Pass Road/Evora Road (East)-SR 4 WB off-ramp	Signal	mid-D v/c 0.85	A	0.46	A	0.29
Int 23	San Marco Boulevard - Willow Pass Road/SR 4 EB ramps	Signal	mid-D v/c 0.85	A	0.39	A	0.50
Int 24	San Marco Boulevard/W Leland Road	Signal	mid-D v/c 0.85	D	0.85	A	0.33
Int 25	Bailey Road/Willow Pass Road	Signal	E	A	0.39	A	0.51

Table 3.11-11 Intersection Peak-Hour Level of Service

ID	Intersection	Control	LOS Standard	AM Peak Hour		PM Peak Hour	
				LOS	v/c or Delay[1]	LOS	v/c or Delay[1]
Int 26	Bailey Road/SR 4 EB ramps - BART access	Signal	E	A	0.41	**F**	**1.11**
Int 27	Railroad Avenue/W Leland Road	Signal	mid-D v/c 0.85	A	0.55	D	0.81
Int 28	Kirker Pass Road/James Donlon Boulevard	Signal	E	n/a[2]	n/a[2]	n/a[2]	n/a[2]

Source: Kittelson & Associates, Inc., 2016.

[1] Analysis based on v/c metric for signalized intersection and the delay metric for unsignalized intersections
[2] Int 28 is a proposed intersection and does not currently exist.

Bold font denotes exceedance of performance thresholds.

Key:
EB = eastbound
Int = intersection
LOS = level of service
NB = northbound
SB = southbound
V/C = volume-to-capacity ratio
WB = westbound

Table 3.11-12 Existing Peak-Hour Delay Index on Freeways in Central and Eastern Contra Costa County

Peak Hour	Direction	Free Flow Speed (mph)	Existing	
			Speed (mph)	Delay Index
State Route 4 (Central County)				
AM	EB	65	62	1.0
AM	WB	65	52	1.2
PM	EB	65	46	1.4
PM	WB	65	65	1.0
State Route 4 (East County)				
AM	EB	65	61	1.1
AM	WB	65	49.1	1.4
PM	EB	65	46	1.4
PM	WB	65	51	1.3
Interstate 680 (Central County)				
AM	NB	65	46	1.4
AM	SB	65	40	1.6
PM	NB	65	44	1.5
PM	SB	65	56	1.2
State Route 242 (Central County)				
AM	NB	65	50	1.3
AM	SB	65	48	1.4
PM	NB	65	53	1.3
PM	SB	65	49	1.3

Source: Kittelson & Associates, Inc., 2016.

Key:
EB = eastbound
NB = northbound
SB = southbound
WB = westbound

Table 3.11-13 Existing Peak-Hour High-Occupancy Vehicle Lane Utilization on SR 4 in Eastern Contra Costa County

Peak Hour	Peak Direction	Vehicle per Lane
State Route 4		
AM	EB	n/a[1]
AM	WB	826
PM	EB	1,029
PM	WB	n/a[1]

Source: Kittelson & Associates, Inc., 2016.

[1] The multimodal transportation service objective for high-occupancy vehicle lane utilization applies only to the peak direction at peak hour. SR 4 WB has been identified as the peak direction during the morning peak hour, and SR 4 EB has been identified as the peak direction during the evening peak hour.

Key:
EB = eastbound
WB = westbound

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\Traffic_LOS_AM.mxd

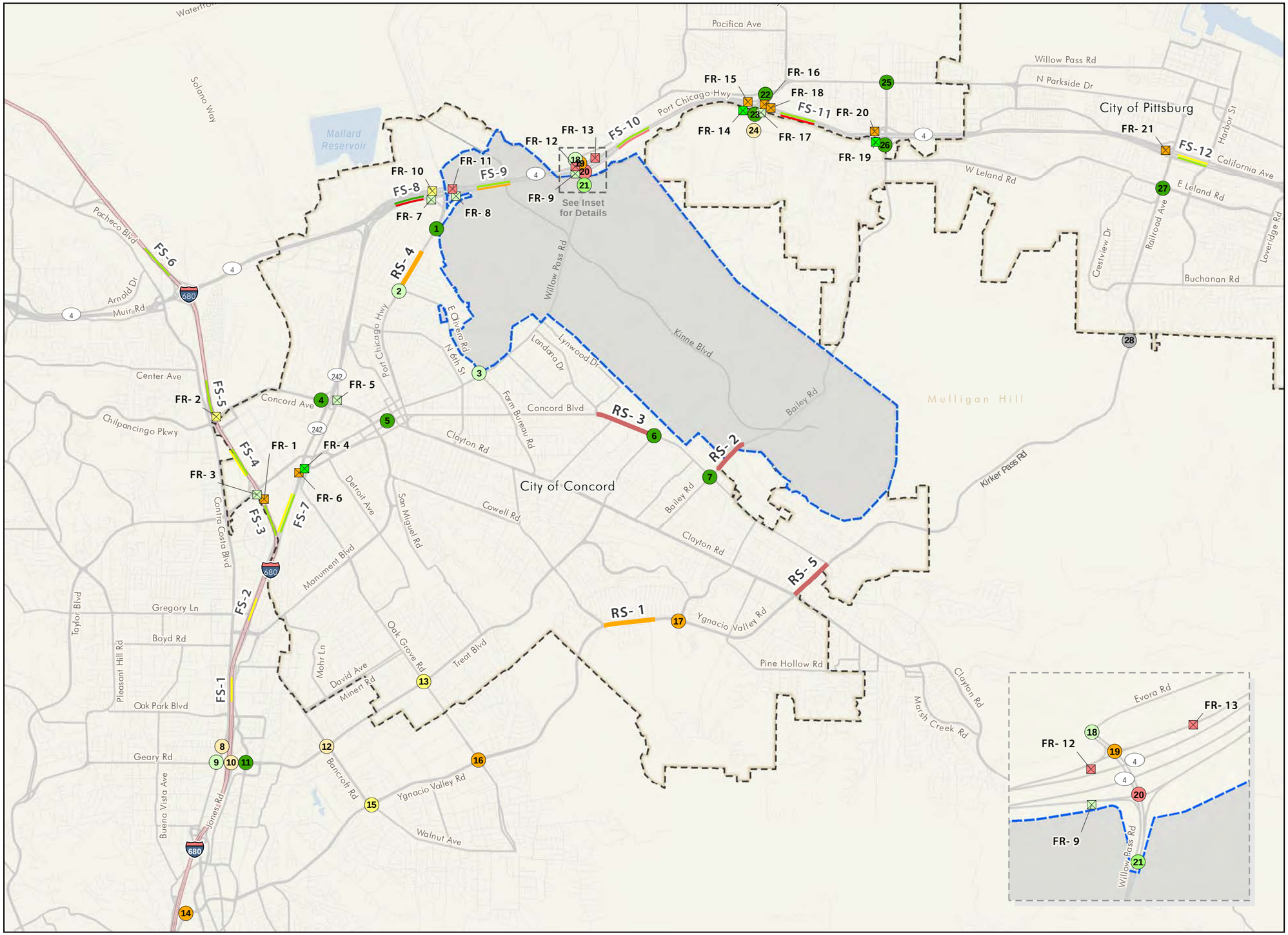


Figure 3.11-2
Study Locations AM Peak Hour Level of Service
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- County Boundary

Traffic Study Intersections and Roadways AM Peak-Hour Level of Service

Freeway Ramp LOS
- A
- B
- C
- D
- F

Intersection LOS
- A
- A/B
- B
- C
- D
- E
- F
- N/A

Freeway Segment LOS
- A/F
- B
- B/C
- B/D
- B/E
- B/F
- C
- C/B

Study Roadway LOS
- C
- D

SCALE
0 0.5 1 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2004, 2011; Kittelson 2014.

This page intentionally left blank.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\Traffic_LOS_PM.mxd

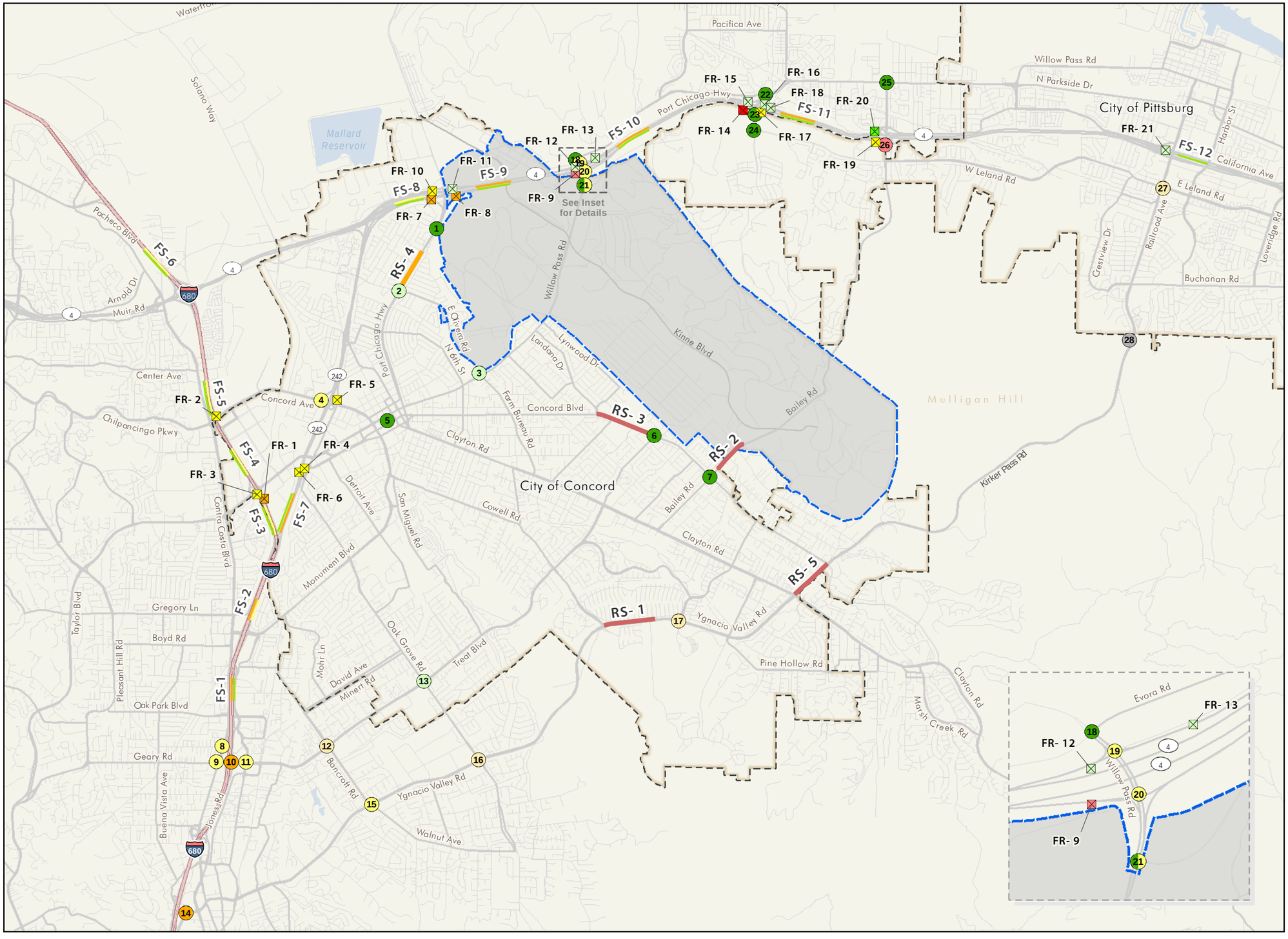


Figure 3.11-3
Study Locations PM
Peak Hour Level of Service
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- County Boundary

Traffic Study Intersections and Roadways
PM Peak-Hour Level of Service

Freeway Ramp LOS
- A
- B
- C
- D
- E
- F

Intersection LOS
- A
- A/C
- B
- C
- D
- E
- F
- N/A

Freeway Segment LOS
- B
- C/B
- D/B
- D/C

Study Roadway LOS
- C
- D

SCALE
0 0.5 1 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2004, 2011; Kittelson 2014.

This page intentionally left blank.

BART provides commuter rail service throughout the region. The Pittsburg/Bay Point – SFO/Millbrae line connects Concord with San Francisco and the San Francisco International Airport (SFO) to the southwest and Pittsburg to the northeast (BART 2014). BART stations near the former NWS Concord include the Concord Station, located on Oakland Avenue south of downtown Concord; the North Concord/Martinez Station, located on Port Chicago Highway adjacent to the northwest border of the former NWS Concord; and the Pittsburg/Bay Point Station, located on Bailey Road northeast of the former NWS Concord. County Connection has 10 fixed routes that connect with the Concord Station and three routes that connect with the North Concord/Martinez Station. The Pittsburg/Bay Point Station forms the terminus of the BART line and currently has no connecting County Connection bus routes.

Tri Delta Transit provides bus service in east Contra Costa County with 13 weekday routes and four weekend routes. Routes connect Concord with the cities of Bay Point, Pittsburg, Antioch, Oakley, Brentwood, and Discovery Bay. Route 201 provides service between the Concord Station and the Pittsburg/Bay Point Station, where transfers can be made to 11 other Tri Delta Transit bus routes (Tri Delta Transit 2013).

The Concord General Plan indicates additional transit service is planned for the redevelopment of the former NWS Concord that would connect the site to the BART stations and other Concord neighborhoods (Concord Department of Planning 2013). Figure 3.11-4 shows bus routes and the location of BART stations in relation to the former NWS Concord.

3.11.6 Pedestrian and Bicycle Facilities

Walking and bicycling are considered viable alternatives to the automobile in Concord, and the Concord Development Plan promotes pedestrian-oriented design and supporting bicycle facilities (Concord Department of Planning 2013). Caltrans classifies bicycle facilities into three main categories (Caltrans 2012):

- Class I Bike Path – Provides an exclusive right of way for bicycle access to areas not served by streets or highways.
- Class II Bike Lane – Shared roadways that delineates the right of way for bicyclists and motorists.
- Class III Bike Route – Designates preferred route for bicyclists in high-demand corridors on shared roadways with bike route signs or markings.

In addition, Caltrans recognizes that significant bike travel occurs on roadways where designations, special signage, or pavement for bicycles is not provided.

The City of Concord employs a similar classification for bicycle facilities but divides Class II bike routes into two categories. Class 3A routes are similar to Caltrans Class III designation routes. Class 3B routes use edge lanes to provide additional space for bicyclists but do not meet the 5-foot bike lane minimum width required by Caltrans Class II bike lanes (Concord Department of Planning 2013). The Concord General Plan proposes a network of Class I and II bicycle facilities for the redevelopment of NWS Concord. Figure 3.11-5 shows the location of bike facilities near the former NWS Concord. Figure 3.11-5 depicts both Contra Costa County's countywide bikeway system, which provides essential regional connections, and Contra Costa County jurisdictional bikeways, which represent the local bike plans in each town or city. Segments of the countywide bikeway system and jurisdictional bikeways remain unbuilt. Figure 3.11-5 also depicts the City of Concord's proposed bikeway network from Concord's Bicycle, Pedestrian & Safe Routes to Transit Plan adopted on September 27, 2016. The plan provides a 20-year vision for improving the walking and bicycling environment in the city through access to transit

stops and stations, schools, jobs, and downtown along with a strategy for support facilities and education programs (City of Concord 2016a).

3.12 Utilities and Infrastructure

This section describes the existing physical and regulatory setting related to utilities and infrastructure, including systems for water supply, wastewater management (including recycled water), stormwater management, solid waste management, electrical supply, natural gas supply, and information technology/communications, as they relate to the former NWS Concord site.

3.12.1 Regulatory Framework

3.12.1.1 Federal and State

Clean Water Act of 1972 and California Code of Regulations Title 23

The CWA of 1972 protects water quality, including the regulation of stormwater and wastewater discharge during construction and operation of a facility. In accordance with the CWA, the State of California established Title 23 of the California Code of Regulations (Waters) by which the State Water Quality Control Board (SWQCB) as well as the nine RWQCBs enforce laws for the protection of water quality and the allocation of surface rights. As part of Title 23, the California SWQCB requires municipalities in California to comply with National Pollutant Discharge Elimination System (NPDES) permits. Specific NPDES permits and Stormwater Pollutant Prevention Plans (SWPPs) are also required for construction projects that will disturb more than one acre.

Urban Water Management Planning Act

Section 10610.4 of the California Urban Water Management Planning Act of 1983 specifies that "Urban Water Suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies." Accordingly, all urban water suppliers, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet annually, are required to prepare an Urban Water Management Plan (UWMP). The CCWD, which supplies water to the City of Concord, including the former NWS Concord, prepared and adopted the 2015 UWMP in June 2016 (CCWD 2016).

Water Conservation Act of 2009

Senate Bill X7-7, the Water Conservation Act, enacted in November 2009, requires all water suppliers in the state to increase water use efficiency. The act has been codified in the California Water Code, Division 6: Conservation, Development, and Utilization of State Water Resources, Part 2.55 Sustainable Water Use and Demand Reduction. The act addresses two sectors, urban water conservation and agricultural water conservation. The act establishes an overall goal of reducing per capita urban water use by 10 percent by December 31, 2015, and by 20 percent by December 31, 2020. Other requirements of the act include (California Department of Water Resources 2013):

- Each urban retail water supplier shall develop water use targets and an interim water use target by July 1, 2011. As defined in the California Water Code, an urban water use target is the urban retail water supplier's targeted future daily per capita water use. An interim urban water use target is the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020 (California Water Code Section 10608.12).

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\BusRoutes.mxd

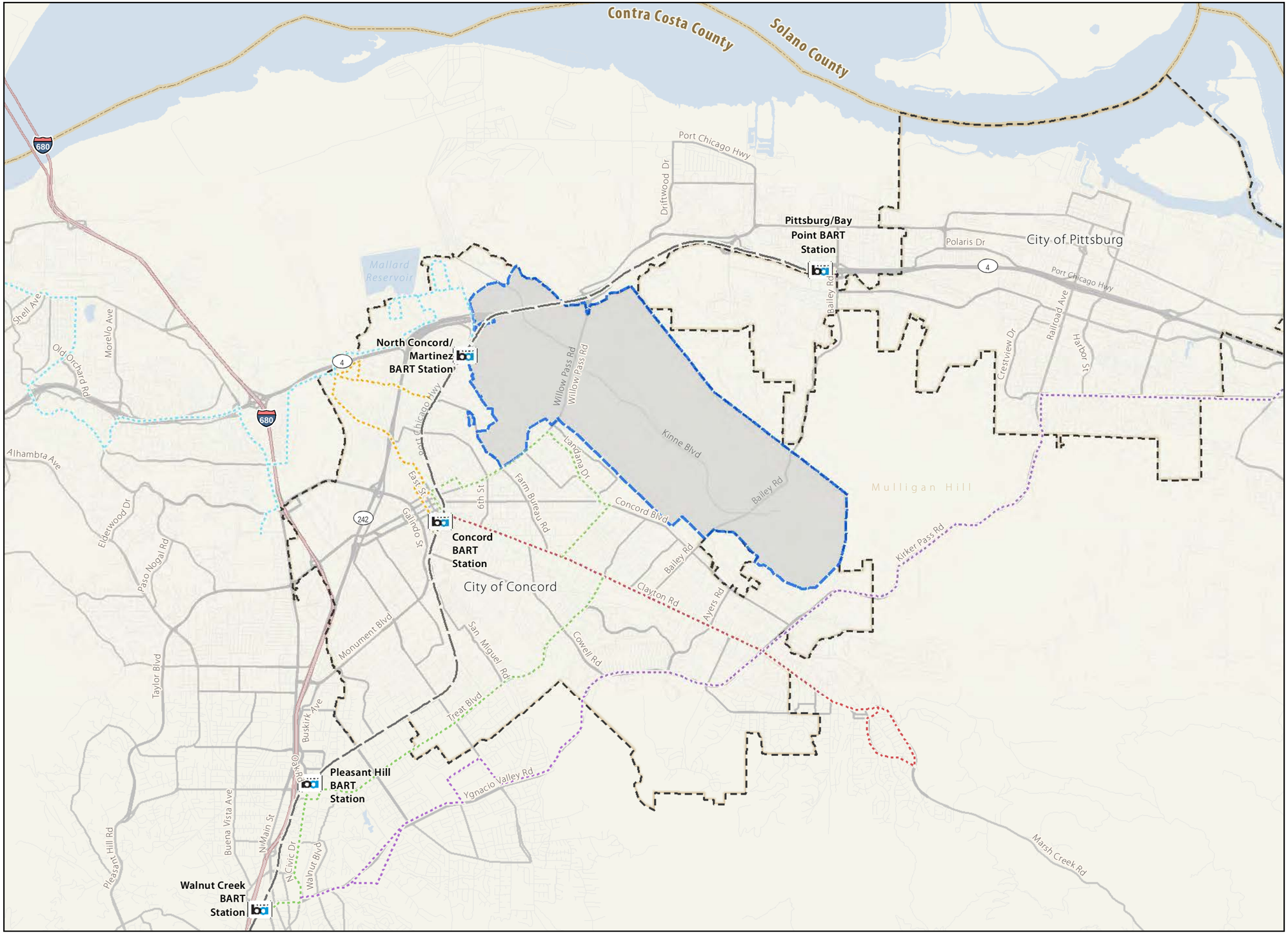


Figure 3.11-4
Bus Routes and BART Stations
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- County Boundary
- Bay Area Rapid Transit (BART) Station
- Bay Area Rapid Transit (BART) Line

County Connection Bus Routes
- Route 10
- Route 15
- Route 17
- Route 28/627
- Route 93X

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2004, 2011.

This page intentionally left blank.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\BikeRoutes_2015_09_03_rev02.mxd

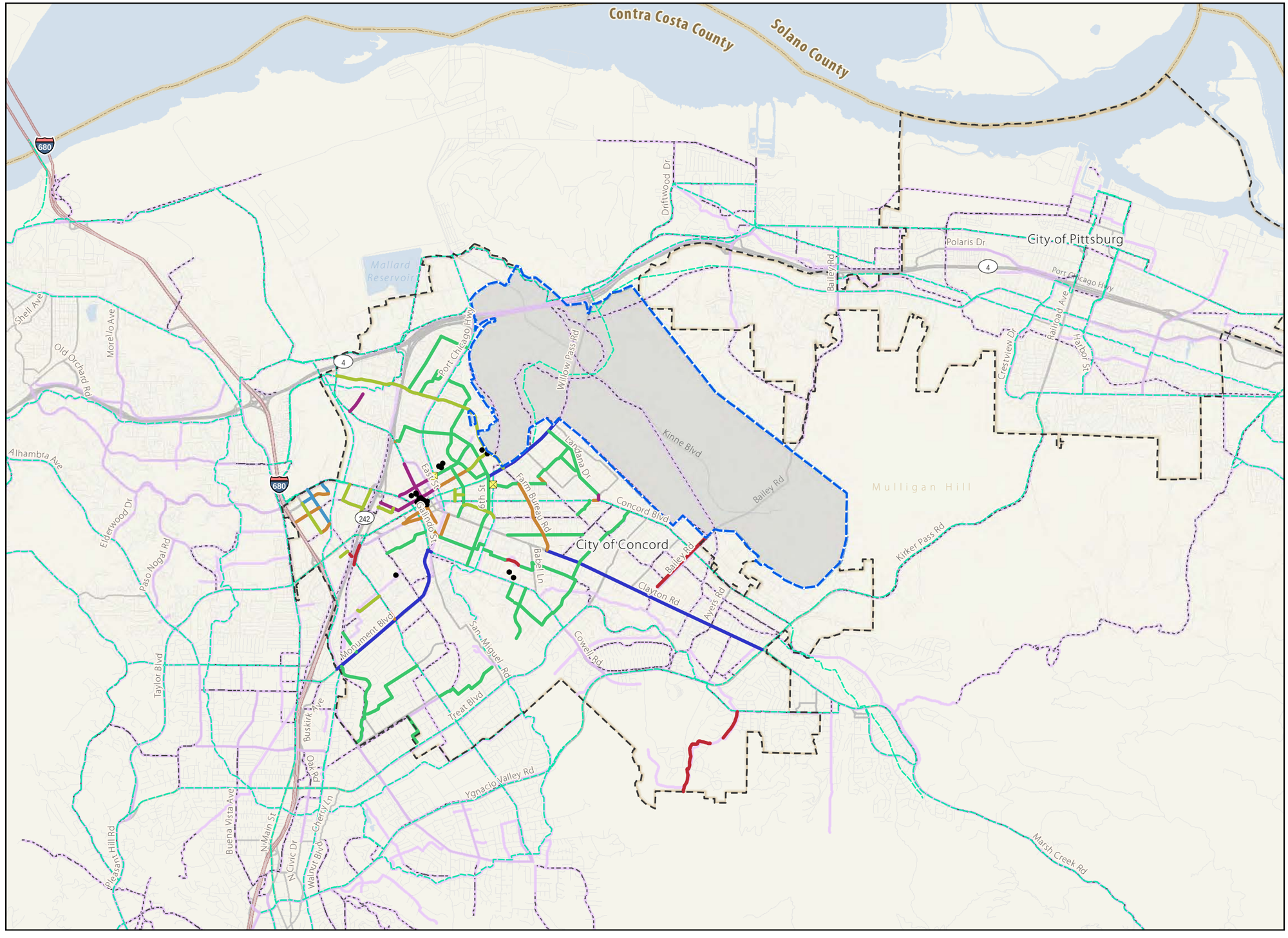


Figure 3.11-5
Bike Trails
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- County Boundary

City of Concord Proposed Bike Parking & Signage Locations

- Bike Parking
- Bikeway Sign

City of Concord Proposed Bikeway Network

- Class I Shared Use Path
- Class II Bike Lane
- Class II Buffered Bike Lane
- Class III Bike Boulevard
- Class III Bike Route
- Class III Shared Lane Marking
- Corridor Conceptual Plan

Contra Costa County

- County-wide Bikeways
- Existing Contra Costa County Jurisdictional Bikeways
- Proposed Contra Costa County Jurisdictional Bikeways

N

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2004, 2011. Contra Costa Countywide Bike & Pedestrian Plan, 2010; ARUP Integrated Planning 2016.

This page intentionally left blank.

- An urban retail water supplier shall include in its water management plan the baseline daily per capita water use, water use target, interim water use target, and compliance daily per capita water use.
- As required by the act, a Commercial, Institutional, Industrial (CII) task force was established in 2011 to develop and implement urban BMPs for statewide water savings. The task force prepared a Water Use Best Management Practices Report for the California Legislature, dated October 2013, which was approved for release in July 2014 (California Department of Water Resources 2017).

Effective 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans.

Senate Bills 610 (Chapter 643, Statutes of 2001) and Senate Bill 221 (Chapter 642, Statutes of 2001)

Adopted in 2002, Senate Bills 610 and 221 seek to improve the coordination of local water supply and land use decisions to help provide California's cities, farms, and rural communities with adequate water supplies. These bills have been codified in the California Water Code 10910-10915 and Government Code Section 66473-66474.10, respectively. Senate Bill 610 (SB 610) requires that the city or county, and the associated public water system, prepare a water supply assessment for projects that would:

1) create the equivalent demand of 500 residential units;
2) include a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (46,452 square meters) of floor space; or
3) a commercial office building employing more than 1,000 persons or having more than 250,000 square feet (23,226 square meters) of floor space.

Transfer of the former NWS Concord would not require preparation of a water supply assessment (City of Concord 2012). However, development proposals for the site may require preparation of one or more water supply assessments. SB 221 requires cities or counties in certain residential subdivisions to prepare a written verification of sufficient water supply for any proposed development.

Safe Drinking Water Act

Passed in 1974 and amended in 1986 and 1996, the federal Safe Drinking Water Act (SDWA) regulates drinking water quality and authorizes the EPA to set health-based standards for drinking water. The SDWA also provides for treatment, monitoring, sampling, analytical methods, reporting, and public information requirements. Basic regulations associated with the federal and California SDWAs are implemented and enforced by the CDPH, Division of Drinking Water and Environmental Management.

Resource Conservation and Recovery Act of 1976

RCRA (42 U.S.C. 6901 *et seq*.) establishes requirements for the management of solid waste. RCRA establishes provisions for the design and operation of solid waste landfills, which are implemented through regulations promulgated by the EPA (40 CFR 239-282). States are authorized to carry out functions of the act through their own waste programs and laws.

California Integrated Waste Management Act (AB 939)

The Integrated Waste Management Act of 1989 established regulations for solid waste management, codifying the act in the Public Resources Code (PRC 40050). The regulations require all local and county governments to develop, for review and adoption by the California Integrated Waste Management Board,

a source reduction and recycling element and an integrated waste management plan that identify ways to reduce (divert) the amount of solid waste sent to landfills. This law mandated solid waste diversion rates of 25 percent by 1995 and 50 percent by the year 2000. AB 341, signed in 2011, modified the California Integrated Waste Management Act by setting a state-wide solid waste diversion rate goal of 75 percent by the year 2020 and mandating recycling by commercial businesses and public entities as of July 2012.

California Government Code Sections 4216–4216.9

These subsections of the California Government Code ("Underground Service Alert") protect underground infrastructure by requiring notification to the appropriate regional notification center at least two working days prior to beginning any excavation. After this notification, underground infrastructure operators are notified and required to locate and field-mark the approximate location and number of subsurface installations that may be affected. The excavator is then required to determine the exact location of subsurface installations that may be affected by excavating with hand tools.

California Building Standards Code and California Fire Code

As discussed in Section 3.10, Public Services, Title 24 of the California Code of Regulations consists of 11 parts that contain building design and construction requirements as they relate to fire, life, and structural safety. Title 24 incorporates current editions of the IBC, including the electrical, mechanical, energy, and fire codes applicable to any development project proposed for the former NWS Concord.

New residential and non-residential buildings in California are required to conform to energy conservation standards specified in 24 CCR Part 6 of Title 24, which address energy consumed for heating, cooling, ventilation, water heating, and lighting. The 2016 Building Energy Efficiency Standards went into effect beginning in 2017 and consist of three basic sets (California Energy Commission 2015). These include mandatory requirements, applicable to all buildings; performance standards based on energy budgets that vary by climate zone; and prescriptive packages, essentially checklist compliance approaches, that serve as alternatives to the performance standards.

The 2016 California Green Building Standards Code (Title 24 Part 11) went into effect in 2017 as part of the 2016 California Building Standards Code (24 CCR) and establishes mandatory standards for planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water efficiency and conservation, material conservation and resource efficiency, and reduction of indoor air contaminants (California Building Standards Commission 2016).

3.12.1.2 Local Regulations

Contra Costa County Ordinance 96-21, Title 1014

The Contra Costa County Watershed Program (CWP) is responsible for ensuring that the county complies with its municipal stormwater NPDES permits, which were developed in accordance with the CWA and Title 23 of CCR. Contra Costa County Ordinance 96-21, Title 1014, grants the CWP authority to enforce compliance with the municipal NPDES permits (Contra Costa County 2006-2013).

Concord 2030 Urban Area General Plan

The City of Concord 2030 General Plan identifies policies and goals to guide future growth within the city, including local utilities such as water and wastewater. The following general plan principles and policies for citywide development are applicable to the reuse of the former NWS Concord, as it pertains to the provision of public utilities (City of Concord 2012):

Principle Public Facilities (PF)-1.1: Provide a Safe and Reliable Water Supply

- Policy PF-1.1.1: Coordinate with the CCWD to provide an adequate and safe water supply.
- Policy PF-1.1.2: Encourage water conservation through city programs and cooperation with the CCWD.
- Policy PF-1.1.3: Coordinate with the San Francisco Bay Regional Water Quality Control Board to provide for the implementation of Storm Water Management Programs intended to protect receiving water sources from pollutants.

Principle PF1.2: Ensure Public Health and Safety by Providing Effective Wastewater Collection and Treatment

- Policy PF-1.2.1: Operate and maintain the city-owned wastewater collection system, including the transfer of wastewater to Central Contra Costa Sanitary District (CCCSD) for treatment and disposal.
- Policy PF-1.2.2: Reduce the need for sewer system improvements by requiring new development to incorporate water conservation measures.
- Policy PF-1.2.3: Cooperate with CCCSD and other service providers to develop a wastewater reclamation program as a supplement to potable water supplies.

Principle PF-1.3: Protect the Community from Adverse Impacts of Water Runoff

- Policy PF-1.3.1: Require new development to provide any needed storm drains that are not part of the city's master storm drain system and to incorporate features into site improvement plans to minimize surface runoff.
- Policy PF-1.3.2: Schedule master drainage improvement projects in the Capital Improvement Program.
- Policy PF-1.3.3: Maintain master storm drain system maps that identify locations where easements should be reserved for the eventual installation of pipes and structures to ensure appropriate storm drainage management.
- Policy PF-1.3.4: Continue the Drainage Area Fee Program to fund master storm drainage improvements.
- Policy PF-1.3.5: Ensure that new development contributes needed drainage improvements in proportion to a project's impacts, to assure an equitable distribution of costs to construct and maintain the city's master storm drainage system.

Contra Costa County and City of Concord Solid Waste and Recycling Requirements

Contra Costa Environmental Health is certified by the California Integrated Waste Management Board as the local enforcement agency for solid waste in the county. The county's solid waste and recycling regulations are contained in ordinances in Division 418, Refuse, of Title 4, Health and Safety, of the county municipal code. Contra Costa Environmental Health also regulates the landfills, transfer stations, and recycling centers that are located in the county. Contra Costa County follows the 2016 California Green Building Standards Code (CalGreen), which requires that at least 65% of job site debris generated by most types of building construction and demolition projects be recycled, reused, or otherwise diverted from landfills (Contra Costa County 2017).

The City of Concord regulates solid waste management under Chapter 8, Solid Waste, of Title 8, Health and Safety, of the city municipal code. Chapter 8.20 requires that at least 65 percent of waste materials, and at least 75 percent of inert debris (concrete, asphalt, brick, and similar masonry products), be diverted from a landfill via reuse or recycling. In addition, some projects are required to pay a performance security and program fee that is refunded at project completion if compliance is met.

3.12.2 Water Systems

3.12.2.1 City of Concord

Water Supply

The CCWD supplies water to the City of Concord. The primary source of the district's water is the Sacramento-San Joaquin Delta via the Central Valley Project (CVP) (CCWD 2016). The CVP is a statewide system under the U.S. Bureau of Reclamation that allows the bureau to regulate and store water in reservoirs where surpluses exist, then transport it through a series of canals, aqueducts, and pump plants to areas in need of water throughout the Central Valley. The U.S. Bureau of Reclamation built the Contra Costa Canal and Clayton Canal, which traverse the City of Concord and the former NWS Concord site, as part of the delta division of the CVP. These canals are managed and maintained by the CCWD, and the rights-of-ways are owned by the U.S. Bureau of Reclamation. However, only the Contra Costa Canal is still used. Use of the Clayton Canal was discontinued more than 20 years ago, and there are no plans to reinitiate use of this canal.

CCWD's CVP contract with the U.S. Bureau of Reclamation currently allows the CCWD to provide delivery of up to 195,000 acre-feet per year (AFY) of water within the district through 2045 and includes provisions for reductions in deliveries during water shortages (CCWD 2016). This water is drawn from delta intakes at Rock Slough near Oakley, Old River near Discovery Bay, Victoria Canal near Victoria Island, and Mallard Slough near Bay Point, and transported through the Contra Costa Canal, which originates at Rock Slough, then flows west to Clyde, south to Walnut Creek, and north to Martinez (CCWD 2015, 2016).

CCWD has additional water rights to divert up to 95,980 AFY from the Los Vaqueros Reservoir and up to 26,700 AFY from Mallard Slough. However, when these supplies are used, CVP diversions are reduced by an equivalent amount such that the combined delivery is limited to 195,000 AFY (CCWD 2016)

Other water sources available to CCWD include recycled water, local groundwater, and water transfers.

In accordance with the Water Conservation Act of 2009, as discussed previously in Section 3.12.1.1, the CCWD established a baseline consumption of 183 gallons per capita per day (gpcd) and is required to reduce its per capita consumption by 20 percent by 2020. The CCWD set an interim water use target for the year 2015 of 165 gpcd and a 2020 water use target of 146 gpcd to comply with this regulation. By the year 2010, the CCWD had already reduced its consumption to approximately 140 gpcd by implementing several conservation measures, including the 2009 Drought Management Program (CCWD 2011). This program consisted of certain rules and regulations to restrict the use of water during any water shortage condition caused by drought, as well as prohibitions on water use for any purpose other than household uses. Specific prohibited uses of CCWD-provided water during the 2009 Drought Management Program included, but were not limited to using water for non-recirculating decorative fountains or filling decorative lakes or ponds; washing paved or other hard-surfaced areas, including sidewalks, walkways, driveways, patios, and parking areas; and washing a vehicle, trailer, or boat using a hose without a shut-off nozzle (CCWD 2011).

Water Treatment

The CCWD owns and operates two water treatment facilities to provide water to its service area, the Bollman WTP in Concord and the Randall-Bold WTP in Oakley (CCWD 2013). The Randall-Bold WTP is owned jointly by CCWD and the Diablo Water District. Untreated water from the delta and Los Vaqueros Reservoir is channeled through the Contra Costa Canal to the Randall-Bold grit basin before being treated at the Randal-Bold WTP or the Bollman WTP (CCWD 2007). Under an agreement in 2004, the CCWD constructed and is operating the City of Brentwood WTP in Oakley to serve customers in the Brentwood city limits outside CCWD's service area boundary (CCWD 2016). This facility, adjacent to the Randall-Bold WTP, shares some of its infrastructure with Randall-Bold to reduce operational costs (CCWD 2016, City of Brentwood 2008). However, water treated at the City of Brentwood WTP is not sent to Concord, and therefore this facility is not discussed further.

Combined, water treatment capacity of the Bollman and Randall-Bold WTPs is 125 mgd (CCWD 2015). The Bollman WTP capacity is currently permitted for 75 mgd (CCWD 2016). The Randall-Bold WTP has a current rated capacity of 50 mgd and is designed for future expansion to a capacity of 80 mgd, if conditions warrant an expansion (CCWD 2007).

Treated water from the Randall-Bold WTP is conveyed from Oakley to the northern portion of the City of Concord via the CCWD's multi-purpose pipeline (MPP), a 21-mile pipeline built to supplement the capacity of the Contra Costa Canal (CCWD 2016).

Groundwater and Water Transfers

Groundwater resources in the CCWD service area do not supply significant amounts of water toward regional water demands. As indicated above under Water Supply, the primary source of water is the CVP. An undetermined number of wells within the CCWD service area are owned by other entities, including industries, private individuals, and municipal water utilities; these wells do not contribute to the CCWD potable water supply. Although groundwater is not managed by the CCWD, it estimates total groundwater use within the CCWD service area in 2015 was 3,000 acre-feet (AF) and will increase to 3,400 AFY by 2040 (CCWD 2016).

Although the CCWD does not use groundwater to meet its regular demands, it entered into a water transfer agreement in 2000 that gives the CCWD an option to purchase up to 4,000 AFY from the East Contra Costa Irrigation District when the CVP experiences shortages. For example, CCWD exercised this option during the 2007-2009 drought. As per the agreement, the exchange water may be used anywhere within the CCWD service area (CCWD 2016).

In addition, the transfer agreement allows CCWD to purchase up to 8,200 AFY of surplus irrigation water from the East Contra Costa Irrigation District for service in the areas common to both districts. CCWD has conducted other short-term water transfers in 2003, 2004, and 2013, from Western Water, Yuba County Water Agency, and Woodbridge Irrigation District, respectively. As an ongoing planning effort, the CCWD investigates potential for future long-term transfer agreements and short-term or spot market purchases to meet water demands in future years (CCWD 2016).

Recycled Water

Efficient use of recycled water is a key component in CCWD's long-term sustainable water supply strategy. Currently, over 10,000 AFY of recycled wastewater is used in CCWD's service area for industrial uses, wildlife enhancement, and landscape irrigation (CCWD 2016).

Of the four wastewater treatment plants within CCWD's service area, three provided treated water for reuse within the service area in 2015; Central Costa County Sanitary District (CCCSD), Delta Diablo

Sanitation District (DDSD), and Mt. View Sanitary District (MVSD). The fourth, Ironhouse Sanitary District (ISD) has capacity to provide recycled water for agricultural and landscape irrigation uses and industrial uses in the service area, once identified (CCWD 2016).

3.12.2.2 Former NWS Concord

Potable water was supplied to the former NWS Concord by the CCWD. Potable water was drawn from a connection with CCWD's water trunk lines at the main gate on Port Chicago Highway and along the western side of the site near the former Navy multi-family residential areas, Victory Village and Quinault Village, located on Olivera Road. Five water tanks with a total capacity of 1.7 million gallons and five pump stations owned by the Navy also provided water on the former NWS Concord (City of Concord 2010).

3.12.3 Stormwater Collection Systems

3.12.3.1 City of Concord

The CWP in Contra Costa County maintains municipal stormwater NPDES permits for areas within the county, including the City of Concord, and as such is responsible for ensuring compliance with the federal CWA and CCR Title 23. The East Contra Costa County NPDES Permit, adopted in September 2010, regulates stormwater discharge into the delta from areas within the City of Concord, as well as other areas throughout the county (Contra Costa County 2013a). The CWP's authority is supported by Contra Costa County Ordinance 96-21, Title 1014, Stormwater Management and Discharge Control, as discussed previously in Section 3.12. 1.2.

Within the city limits, the City of Concord Public Works Department maintains the stormwater drainage collection system, which includes 229 miles of stormwater drain pipes; 1,140 manholes; and almost 6,000 catch basins. Stormwater is discharged into a variety of creeks and drainage channels, including Mt. Diablo Creek, Galindo Creek, Pine Creek, and their tributaries and the Walnut Creek Flood Control Channel. These creeks, channels, and regional flood control basins are maintained by the Contra Costa County Flood Control and Water Conservation District (CCCFC&WCD) (Contra Costa County 2013a). No evaluation of the existing capacity of the city's stormwater drainage has been completed (City of Concord 2010).

3.12.3.2 Former NWS Concord

The former NWS Concord consists of primarily pervious, undeveloped area. Surface drainage features on the site include Mt. Diablo Creek, the Holbrook Channel, a number of small tributaries that drain the northeast portion of the site, and a number of wetlands (wetlands and other surface water features are described further in Section 3.14, Water Resources). More than 75 percent of the site drains into Mt. Diablo Creek, which only flows during the rainy season. Approximately 22 percent of stormwater from the site drains into the Holbrook Channel and connected urban drainages. The Holbrook Channel begins near the western edge of the site and eventually joins Walnut Creek. Approximately 1 percent of stormwater from the site drains into the Willow Creek watershed toward the City of Pittsburg through sheet flow during major storm events (ESA PWA 2011). During the wet season, the Contra Costa Canal acts as a drainage channel within the site (City of Concord 2010).

3.12.4 Sanitary Sewage Collection and Treatment Systems

3.12.4.1 City of Concord

Both the CCCSD and the City of Concord provide sewage collection services to the City of Concord. The City of Concord maintains and operates the majority of the sewer system within the city boundaries,

while the CCCSD owns and operates a small portion primarily within northern and western areas of the city (Contra Costa LAFCO 2008).

Wastewater generated from homes and businesses throughout the City of Concord and other central Contra Costa County communities served by the CCCSD and City of Concord flow through underground pipelines. The City of Concord owns and maintains approximately 383 miles of 6-inch- to 54-inch-diameter collector and trunk sewer mains; approximately 119 miles of sewer laterals; 8,140 manholes; and more than 39,000 service connections (City of Concord 2012). The CCCSD owns and maintains 1,500 miles of underground pipelines that range from 6 inches to 102 inches in diameter (CCCSD 2009). Much of the wastewater is conveyed by gravity to the CCCSD WWTP northeast of the intersection of I-680 and SR 4. However, a few hilly areas and lands downslope from the treatment plant require pumping facilities to "lift" the effluent to the gravity system. The CCCSD owns 19 pumping stations, and the City of Concord owns one pumping station that assist in conveying the wastewater (CCCSD 2009; Contra Costa LAFCO 2008).

At the WWTP, the CCCSD provides treatment and disposal services for all wastewater from the City of Concord (Contra Costa LAFCO 2008). Wastewater is treated to either secondary levels, after which it is discharged into the Suisun Bay, or to advanced levels (chemical-assisted filtration and hypochlorite disinfection) to produce high-quality recycled water suitable for nonpotable uses. The WWTP operates under an NPDES permit, with a maximum operating capacity of approximately 125 mgd (53.8 mgd dry-weather flow). The CCCSD can also temporarily divert up to 140 million gallons of excess sewer inflow into WWTP holding basins during wet weather flow. The dry-weather flow of the WWTP in FY 2008 was 35.2 mgd (City of Concord 2010), and in 2012 the CCCSD treated approximately 33.2 mgd (Leavitt 2013).

The City of Concord uses a 20-year financial planning horizon when considering future capital projects for the sewer system. These future projects will be funded through the Sewer Enterprise Fund, which at the start of FY 2013-2014 was approximately $6.1 million (Ovadia 2013).

Adopted as part of the Biennial Operating Budget FY 2015-16 and FY 2016-17, the City of Concord's FY 2015-2016 Capital Improvement Program contains seven sewer and sanitation capital improvement projects, four of which are annual or ongoing (City of Concord 2015). These include projects to extend sewer mains to residences not currently connected, analyze sewer mains for structural defects and then repair them, and annually replace designated city-owned sewer laterals suffering from greater infiltration of groundwater. The three remaining projects consist of the following:

- Project Number SWR-1302, Cowell Road BART Area Sanitary Sewer Upgrade. This project will replace the trunk sewer main on Cowell Road near the Concord BART Station. It was slated to begin July 2015, and projected completion date is FY 2018-2019. Budgeted funding is $2 million.
- Project Number SWR-1511, Downtown Sanitary Sewer Upgrade – Phase IIb. This project will replace sewer mains and laterals that are failing and undersized in the Downtown Phase II priority area. It was slated to begin July 2015, and projected completion date is FY 2017-2018. Budgeted funding is $3.5 million.
- Project Number SWR-1306, Downtown Sanitary Sewer Upgrade – Phase III. This project will replace sewer mains and laterals that are failing and undersized in the Downtown Phase III priority area. It was slated to begin July 2015, and projected completion date is FY 2019-2020. Budgeted funding is $2 million.

3.12.4.2 Former NWS Concord

Wastewater generated at the former NWS Concord site is collected by the CCCSD system and the City of Concord. A 2,160-acre area in the northeastern portion of the site is serviced by the CCCSD as part of its DA12-1 service area. An additional 2,160-acre area in the southwestern portion of the site and 708-acre portion near the abandoned airfield do not currently have a sewage collection system because no sewage is generated within these areas of the site.

3.12.5 Other Utilities and Infrastructure

3.12.5.1 City of Concord

Solid Waste and Recycling Management

The Concord Disposal Service (CDS) provides solid waste collection services to the City of Concord. In 2004, the City of Concord generated 134,465 tons of solid waste, which was disposed of at the Potrero Hills and Keller Canyon landfills.

The Potrero Hills Landfill, Inc., is a Class III landfill located in Solano County near SR 12 in Suisun City, about 16 miles north of the former NWS Concord. The landfill accepts municipal, industrial, construction and demolition (C&D), and other waste types. It is permitted to receive an average of 3,400 tons per day and has a permitted capacity of 83.1 million cubic yards (cy) (CalRecycle [California Department of Resources Recycling and Recovery] 2014a; Solano County Department of Resource Management 2012). The landfill received an average of approximately 1,075 tons of waste per day in 2012 (CalRecycle 2014c). CalRecycle lists the remaining capacity as 13.8 million cy, with an estimated closure date of 2048.

The Keller Canyon Landfill, located east of the former NWS Concord in unincorporated Contra Costa County on Bailey Road near Pittsburg, is a Class II landfill. The landfill accepts municipal, industrial, C&D, and other waste types. It is permitted to accept up to 3,500 tons of waste per day, with a capacity of 75 million cy (CalRecycle 2014b; Contra Costa Environmental Health 2009). The landfill received an average of approximately 2,000 tons of waste per day in 2012 (CalRecycle 2014d). CalRecycle lists the remaining capacity as 63.4 million cubic yards, with an estimated closure date of 2030. The facility permit lists the closure date as 2050 (Contra Costa Environmental Health 2009). In 2008, Keller Canyon Landfill applied for an amendment to its facility land use permit that would increase the maximum allowed waste from 3,500 tons to 4,900 tons per day (Contra Costa County n.d. [b]). A revised notice of preparation of a supplemental EIR to amend the land use permit was circulated in October 2015.

The CCCSD operates the Household Hazardous Waste Collection Facility located near the City of Martinez, which serves the City of Concord. The diversion of household hazardous waste from landfills, along with several other recycling programs, has been successful in reducing overall waste disposed of in area landfills.

In accordance with the California Integrated Waste Management Act of 1989 (AB 939) and its revisions, the City of Concord has a goal of diverting 75 percent of its solid waste from disposal in a landfill by the year 2020. CDS provides recycling and greenwaste services to the City of Concord. The City of Concord's diversion rate was 49 percent in 2006 (CalRecycle 2017) (the state ceased reporting jurisdictional diversion rates in 2007). A 2016 CalRecycle report noted that statewide recycling was estimated to be 50 percent each year of the five-year period from 2010 to 2014, and acknowledged the challenges of meeting the statewide 75 percent diversion rate goal, which is not yet a mandate (CalRecycle 2016). Contra Costa County has a robust C&D recycling industry and maintains lists of certified C&D processing facilities (Central Contra Costa Solid Waste Authority 2016).

Electric and Natural Gas Supply

PG&E provides electricity to the City of Concord through a 115-kv transmission power line that parallels SR 4 in Pittsburg, turns south at the intersection of SR 4 and Kirker Pass Road, and continues along Kirker Pass Road toward the southwest. Several distribution lines provide utility feeds throughout the City of Concord, the City of Clayton, and the area north of Willow Pass Road. Power is fed to the 115-kv line through high voltage transmission lines outside of the City of Concord that receive power from several power plants within PG&E's service area as well as from energy purchased outside the service area.

PG&E also provides natural gas to the City of Concord via a 20-inch high pressure gas pipeline that passes through the utility corridor next to Kirker Pass Road. A PG&E gas meter station is located at the intersection of Port Chicago Highway and SR 4.

Telecommunications

AT&T is the major telecommunications provider in the city. Comcast and Astound Broadband also provide telecommunications as well as cable television services in the city.

3.12.5.2 Former NWS Concord

Solid Waste and Recycling Management

Because the former NWS Concord is considered a major federal facility and treated as an incorporated municipality, it is not required to use the sole service solid waste provider that collects waste within the City of Concord (Matter of Concord Disposal, Inc. 1992). However, CDS still provides solid waste disposal, recycling, and greenwaste services at the former NWS Concord site.

Electric and Natural Gas Supply

Currently, power is provided to the former NWS Concord by PG&E via a 4.16-kv electrical system that distributes power purchased from the Western Area Power Administration (WAPA 2008). A 21-kV power line operated by PG&E runs through the former NWS Concord site, adjacent to Kinne Boulevard and parallel to WAPA's facilities.

PG&E also supplies natural gas to the former NWS Concord. The natural gas distribution line ends just north of SR 4, near the site's front entrance gate.

Telecommunications

Telecommunication cable is present both in underground conduits and on overhead structures at the former NWS Concord. Comcast maintains an existing overhead line extending through the site, and a 2-inch conduit fiber-optic cable crosses the site in the area between Port Chicago Highway and Willow Pass Road. The former NWS Concord is within an area subject to an existing franchise agreement between Comcast and the City of Concord.

3.13 Visual Resources and Aesthetics

This section presents a discussion of the existing physical and regulatory setting for visual resources and aesthetics relating to natural and built features of the former NWS Concord landscape visible from public areas. The character of existing visual resources and aesthetics are evaluated using a modified Bureau of Land Management (BLM) visual resource management methodology, selected for this evaluation because of the open space characteristics of the former NWS Concord that are consistent with public lands typically evaluated with the BLM visual resource management methodology. The ROI is a noncontiguous area that includes former NWS Concord and adjacent areas from which the public can see the installation.

This includes adjacent roadways such as SR 4, certain neighborhoods within the City of Concord (including the Sun Terrace and Dana Estates neighborhoods), and the City of Concord's downtown. Mount Diablo is a prominent landscape feature in the region, and views of it are included in the discussion below because the former NWS Concord provides an unobstructed foreground for views of Mount Diablo from the City of Concord.

The affected environment is defined by a landscape analysis, aesthetic objectives as guided by local plans, and a characteristic landscape description of KOPs. A description of key terms related to the affected environment is provided below; a full glossary of terms is provided in BLM manual 8400 – Visual Resource Management (BLM 1984).

Landscape Analysis

The landscape analysis provides an overall description of the unique combination of visual features (land, water, vegetation, and structures) within the ROI. The analysis is based on the following components: landscape type (panoramic, enclosed, feature, or canopied), overall landscape character elements (form, line, color, and texture), and landscape analysis factors (contrast, sequence, axis, convergence, co-dominance, framing, and scale).

Aesthetic Objectives

For the purposes of this analysis, aesthetic objectives are defined by local plans applicable to the proposed action and the ROI (see Section 3.13.2), as well as based on comments received during the public scoping period (refer to Section 1.9 for further information on public involvement under NEPA). No federal or state plans or policies are relevant to this analysis.

Key Observation Points

KOPs are locations where the impact of the proposed action would be most critical. Typically, critical viewpoints include commonly traveled routes and likely observation points (refer to Section 3.13.3 for further information on KOP selection).

Characteristic Landscape Description

The characteristic landscape description identifies the visual resources observed from KOPs that may be affected by the proposed action. Land and water features, vegetation, and structures are described for their form, line, color, and texture. Form is the mass or shape of an object such as landforms or structures. Line is the path that the eye follows when perceiving abrupt changes in form, color, or texture or when objects are aligned in a sequence. Texture is the noticeable contrast between form or color mixtures described by grain, density, and regularity.

Figure 3.13-1, Visual Setting, depicts KOPs, other viewpoints, adjacent transportation corridors, and parks and open space.

3.13.1 Landscape Analysis

Views within the ROI include panoramic, feature, and canopied, depending upon the viewer location.

Typical panoramic views in the ROI are from elevated residential and open space locations as well as along Willow Pass and Bailey Roads (see Figure 3.13-2). Panoramic views are broad horizontal landscapes where objects in the foreground and middle ground do not obstruct distant views. Rolling hills are the prominent forms within the ROI's panoramic landscapes, with strong curving lines broken by the straight horizon. Color and texture are primary distinguishing factors between urban (complex colors, varied textures, and linear features associated with urban structures and materials) and open space (more homogenous and lighter colors, and simpler textures associated with grassland landscapes). The contrast

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Key_Observation_Points_new.mxd

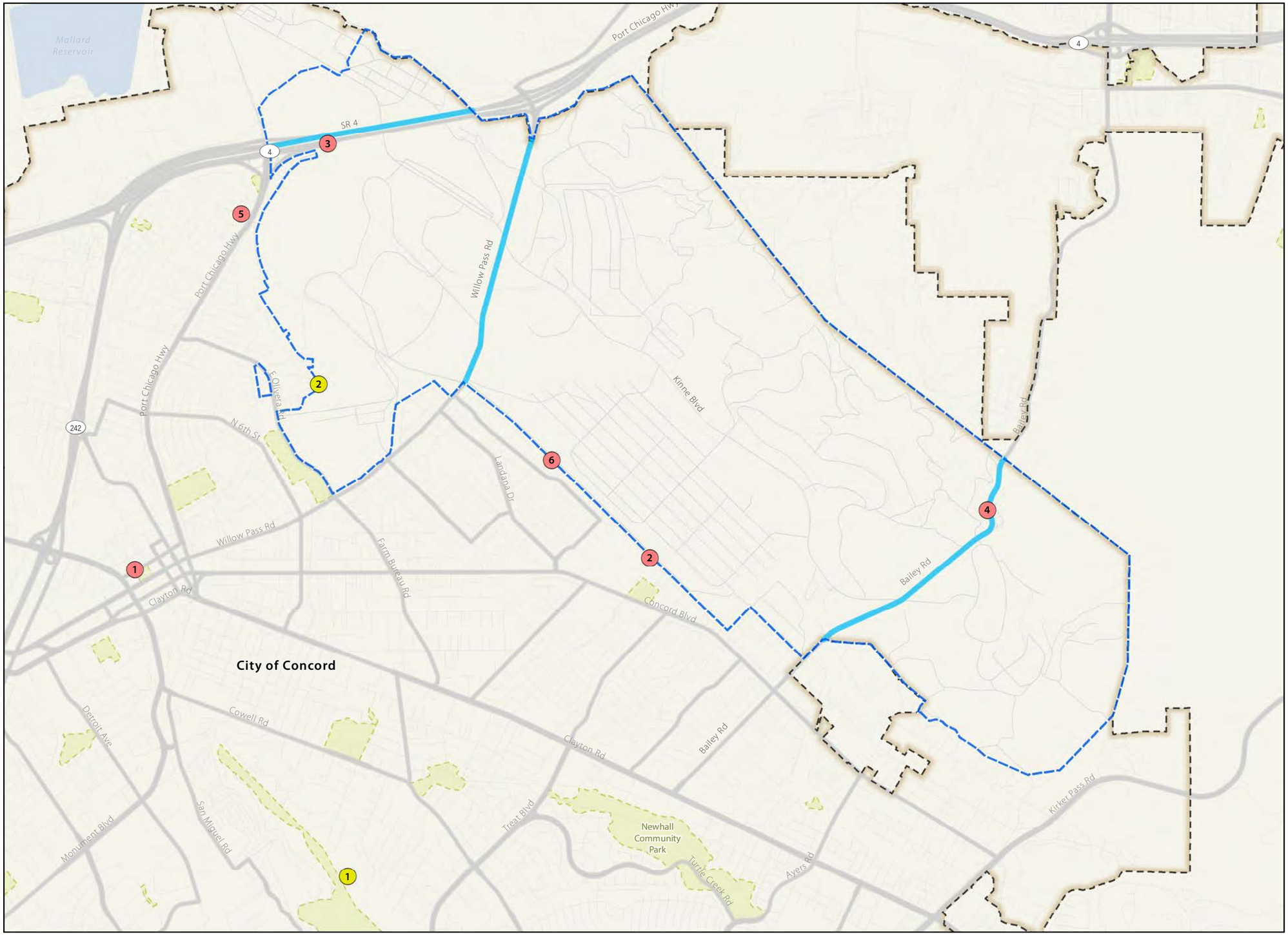


Figure 3.13-1
Visual Setting
Former NWS Concord
Concord, California

Legend

- Major Highway
- Local Road
- Former NWS Concord
- City Limits
- Waterbody
- Local Park
- Key Observation Point
- Transportation Corridor
- Viewpoint

	Label	Name
Key Observation Point	1	KOP 1: Salvio Street and Mt. Diablo St
	2	KOP 2: Concord High School
	3	KOP 3: State Route 4
	4	KOP 4: Bailey Rd
	5	KOP 5: Panoramic Dr
	6	KOP 6: Beechwood Dr
Viewpoint	1	Viewpoint 1: Lime Ridge Open Space
	2	Viewpoint 2: Haleakala St

N

SCALE
0 0.5 1 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2012; City of Pittsburg, 2008; City of Concord, 2012.

This page intentionally left blank.



View toward Mt. Diablo from Bailey Road in Los Medanos Hills. Land in the middle ground is the former NWS Concord.



View westward from Bailey Road in Los Medanos Hills across the former NWS Concord.

Figure 3.13-2a: Characteristic Panoramic Views Within the ROI
EIS for the Disposal and Reuse of the
NWS Seal Beach Detachment, Concord
Contra Costa County, California

This page intentionally left blank.



View of Los Medanos Hills at former NWS Concord. Photo taken from Lime Ridge Open Space. (Viewpoint 1 on Figure 3.13-1)



View of former NWS Concord taken from Concord High School

Figure 3.13-2b: Characteristic Panoramic Views Within the ROI
EIS for the Disposal and Reuse of the
NWS Seal Beach Detachment, Concord
Contra Costa County, California

This page intentionally left blank.

between urban and open space areas, the linear sequence of bunkers, and the scale relationship between structures and the open space around them are evident factors of the landscape within characteristic panoramic views of the former NWS Concord.

Feature views of Mount Diablo occur throughout the ROI from residential locations and along roadways such as SR 4 (see Figure 3.13-3). Feature landscapes are dominated by a feature element to which the viewer's eye is drawn. Mount Diablo is the predominant form within feature landscapes, with relatively flat landscape lines broken by the line of Mount Diablo against the horizon. In general, views contain fine texture and color that subtly shift from foreground to background; however, dark grey-green hues and medium texture, associated with urban development, may be prominent along the horizon of views of Mount Diablo from some locations. The contrast and scale relationship between Mount Diablo and the surrounding relatively flat and rolling landforms are noticeable in feature views that include the former NWS Concord.

Canopied landscapes within the ROI are typical from downtown Concord and residential locations that are not adjacent to the former NWS Concord (see Figure 3.13-4). Canopied landscapes are landscapes where features overhang to create a canopy or ceiling to the view Trees, transportation infrastructure, and buildings are the predominant forms in canopied views of the installation site. Strong converging lines, complex colors from vibrant reds to grey concrete, and complex textures are also characteristic landscape elements of these views. The variety between forms, colors, and textures as well as the linear sequence of objects alongside roadways and convergence or roadway lines are noticeable analysis factors.

3.13.2 Local Plans and Policies

Two City of Concord plans guide the aesthetic objectives for the proposed action and the ROI as well as the requirements for the visual impact analysis (Section 4.13). These plans and associated polices are identified below.

- **City of Concord, 2030 General Plan (Concord General Plan)**. The City of Concord General Plan does not have a section dedicated to visual resources polices; however, policies related to aesthetic and scenic quality are included within these goals:
  - LU-1, Livable and Enjoyable Residential Neighborhoods;
  - LU-9, Well-Designed Development;
  - LU-10, High-Quality Urban Design in Public Spaces and Infrastructure;
  - LU-11, Open Space Protection;
  - POS-2, Protection and Accessible Open Space System; and
  - POS-3, Well-Planned Natural Resource Conservation.

Relevant principles and policies related to the land uses and design features of reuse of the former NWS Concord are provided in Table 3.13.1.

- **Concord Reuse Project Area Plan.** The City of Concord 2030 General Plan includes the Concord Reuse Project Area Plan, which provides further guidance on the use of the site beyond the principles and policies stated in the 2030 General Plan. This includes specific policies and standards for its development and conservation that are related to visual resources, as listed in Table 3.13.2.
- **City of Concord, Development Code.** The City of Concord Development Code provides criteria and standards to implement policies contained in the Concord General Plan.

Hillside Protection (Chapter 122, Article VI, Division 1) regulations address the protection of views in hillside areas.

Table 3.13.1 City of Concord General Plan Principles and Policies Related to Visual Resources

Principle	Description
Principle LU-8.1	Achieve a complete and diverse community that provides well connected neighborhoods and districts with high-quality urban design and convenient access to open space, daily necessities, and regional transit.
Policy LU-8.1.3	On the portions of the CRP site that adjoin existing Concord neighborhoods, design open spaces and new buildings to be compatible in scale with adjacent established uses.
Policy LU-8.1.6	Design built features and the circulation system to respond to the CRP site's natural form. Where slopes of 30% or greater occur within planned development areas on the CRP site, they should generally be set aside as open space.
Policy LU-8.1.8	Maximize views from public rights of way and public spaces on the CRP site to natural features, including but not limited to Mount Diablo, the California Delta, and the Los Medanos Hills, provided the resulting design is consistent with the climate action program.
Policy LU-8.1.9	Provide street and open space connections between the CRP site and established Concord neighborhoods at appropriate locations to improve accessibility and create a more cohesive and connected city.
Principle LU-8.2	Provide for a balance between development and open space on the CRP site.
Policy LU-8.2.1	Designate the most environmentally sensitive portions of the CRP site, including the Los Medanos Hills and the Mt Diablo Creek corridor, as permanent open space.
Policy LU-8.2.2	Incorporate a network of greenways within the CRP site that help define neighborhood edges, connect residents to services and workplaces, and provide access to recreational features and open space.
Principle LU-10.1	Create Attractive, Inviting Public Spaces and Streets that Enhance the Image and Character of the City.
Policy LU-10.1.7	Implement urban design measures which visually and functionally integrate the Concord Reuse Project site into the existing City and reduce perceptions that the site is a separate community.
Principle POS-2.2	Preserve Natural Resources within Designated Open Space
Policy POS-2.2.3	Strive to preserve open space in northeast Concord in order to maintain the visual profile of the Los Medanos Hills. *The City will coordinate with the East Bay Regional Park District in the dedication of a new regional park on the Concord Reuse Project site. The park will encompass the most environmentally sensitive portions of the site, including the Los Medanos Hills.*

Source: City of Concord 2010

Key:
CRP = Concord Reuse Plan



View toward Mt. Diablo across former NWS Concord lands in the foreground. Photo taken from SR-4 near Port Chicago Highway.



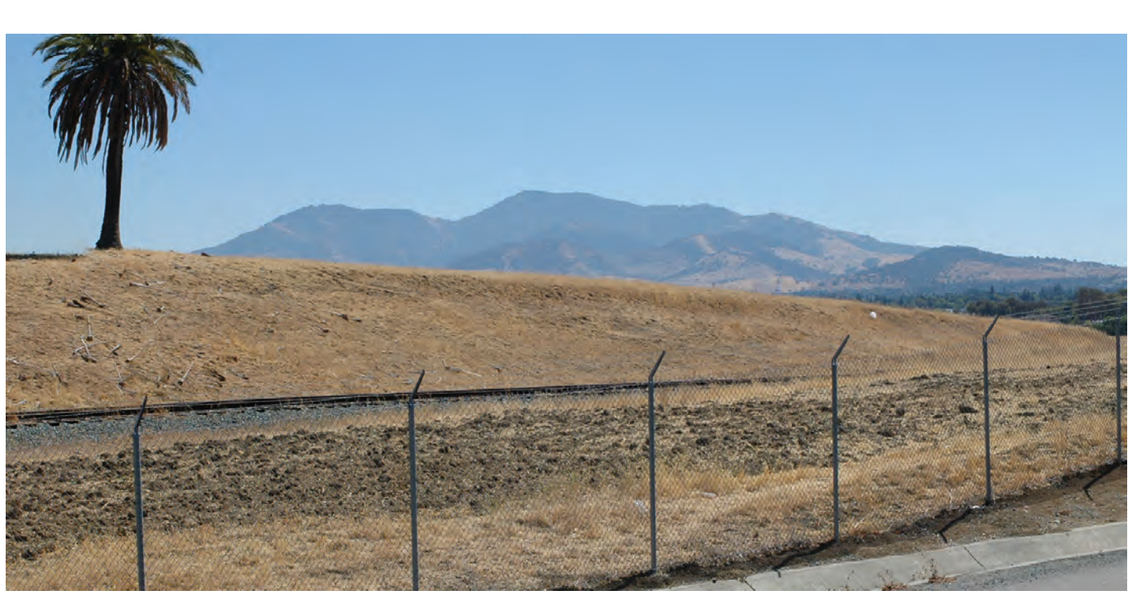
View toward Mt. Diablo from SR-4 near Willow Pass Road. Former NWS Concord is in the middle ground.

Figure 3.13-3a: Characteristic Feature Views Within the ROI
EIS for the Disposal and Reuse of the
NWS Seal Beach Detachment, Concord
Contra Costa County, California

This page intentionally left blank.



View toward Mt. Diablo from small park near Haleakala Street, in Victory Village (Coast Guard housing). Former NWS Concord is the property in the middle ground beyond the cyclone fence. (Viewpoint 2 on Figure 3.13-1)



View toward Mt. Diablo from North Concord BART station. Former NWS Concord is the property in the foreground beyond the cyclone fence.

Figure 3.13-3b: Characteristic Feature Views Within the ROI
EIS for the Disposal and Reuse of the
NWS Seal Beach Detachment, Concord
Contra Costa County, California

This page intentionally left blank.

Table 3.13.2 Concord Reuse Project Area Plan Principles and Policies Related to Visual Resources

Principle	Description
Policy C-1.1	Resource Conservation - Encourage new development to preserve natural elements that contribute to the community's ecological value and aesthetic character.
Principle C-2	Protect ridgelines and visible hillsides in the CRP area.
Policy C-2.1	Hillside and Ridgeline Protection - Require new development to use natural landform as a key determinant of land use and urban design. This shall include preservation of hillsides and ridgelines, and conservation as permanent open space of the Los Medanos Hills and area south of Bailey Road.
Policy C-2.2	Slopes Over 30 Percent - Limit development on slopes that are 30 percent or greater. Where such slopes occur within the areas shown for urban uses on the Area Plan Diagram, they should generally be set aside as public or private open space in order to minimize the need for grading and earth movement. In the areas closest to the North Concord / Martinez BART Station, some development on steeper slopes may be acceptable in order to maximize TODt opportunities.
Policy C-2.4	Open Space and Community Character - Use open space to delineate the edge of the urbanized area, to frame new and established neighborhoods, to retain the visual profile of the site from other parts of Concord, and to maintain a distinct boundary between the Diablo Valley and the communities to the east.
Principle C-6	Expand Concord's tree canopy through tree planting and preservation in the CRP area.
Policy C-6.1	Minimizing Tree Loss - Require that future development in the Plan Area be sited in a way that avoids the loss of oak woodlands and large specimen oak trees.
Policy SHN-2.1	Mt. Diablo Creek Buffer and Channel Improvements - Consistent with site-wide permits obtained from resource agencies having jurisdiction over streams on the site, maintain a buffer along Mt. Diablo Creek.
Policy U-8.2	Siting of Telecommunication Facilities - Ensure that any telecommunication facilities developed on the site are consistent with the overall standards and policies of the Area Plan, including the preservation of scenic views and vistas; conservation of sensitive habitat areas and natural topography; and protection of public health and safety.

Source: City of Concord January 2012c

Key:
CRP = Concord Reuse Plan

3.13.3 Scenic Quality Field Survey

The existing visual appearance of the former NWS Concord was assessed from KOPs (see Figure 3.13-1). KOPs were selected based on locations identified by the City of Concord as sensitive to views of the former NWS Concord and representative of the different types of landscape views in the city. Selection criteria included or considered identification of important features on the former NWS Concord, changes to the installation site as a result of the proposed action, and important views to the community. These views are identified as views across the site toward Mount Diablo and the Los Medanos Hills as well as views from neighborhoods adjacent to the former NWS Concord, major roadways adjacent to and traversing the installation site, and locations where people congregate (e.g., downtown Concord). Table 3.13-3 lists KOPs and the rationale for their selection. KOP photographs presented in this section were taken in September and October 2013.

Table 3.13-3 KOP Selection

KOP	Location Description	Selection Rationale for Views Important to the Community
1	Salvio Street and Mt. Diablo Street	Contains views of Los Medanos Hills from downtown Concord
2	Concord High School	View includes features on the former NWS Concord and contains views of Los Medanos Hills from a location where people congregate (high school football field bleachers)
3	State Route 4	View includes features on the former NWS Concord and contains views of Mount Diablo from a major roadway (SR 4) adjacent to the former NWS Concord.
4	Bailey Road	View includes features on the former NWS Concord and contains views from a major roadway (Bailey Road) that traverses the former NWS Concord
5	Panoramic Drive	Contains views of Los Medanos Hills from Sun Terrace neighborhood adjacent to the former NWS Concord
6	Beechwood Drive	Contains views of Los Medanos Hills from Dana Estates neighborhood adjacent to the former NWS Concord

BLM Manual Handbook 8431-1, Form 8400-4, was used to assess the existing scenic quality of the former NWS Concord (BLM 1986). The characteristic landscape description and human and environmental factors are identified for each KOP. Human and environmental factors affect the viewer's perception of the landscape and can enhance or distract attention from the former NWS Concord.

3.13.3.1 KOP 1 – Salvio Street and Mt. Diablo Street

The view from KOP 1 is an enclosed canopied landscape that is representational of views of the former NWS Concord from downtown Concord (Figure 3.13-4). The fore- and middle-ground are dominated by single and multi-story buildings and landscaped trees and shrubs that transition to rolling terrain in the distance. Complex lines and textures created by the structures and vegetation along the periphery of the view create an axis in the middle of the view down Salvio Street to the former NWS Concord. Prominent colors from vegetation and structures in the foreground are complex.

Figure 3.13-4 KOP 1 – Salvio Street and Mt. Diablo Street



Location: Downtown Concord at Salvio Street and Mt. Diablo Street
Date: September 7, 2013
Distance from the former NWS Concord: 1 mile to the former NWS Concord boundary and 3 miles to the background distance zone

Human and environmental factors greatly affect the visibility of the former NWS Concord from this location. The distance to the viewer, small length of time the installation site is in view (glimpses between city blocks), lack of nighttime lighting at the former NWS Concord, and movement of cars in the foreground distract the viewer's attention from the former NWS Concord. Conversely, the convergence of lines down Salvio Street makes the former NWS Concord more prominent in the view. Conditions under which the KOP photograph was taken include full foliage cover from trees; the installation site would be more visible from this location during winter months, when the trees are bare. Viewer sensitivity in this area is moderately high due to the location in downtown Concord.

3.13.3.2 KOP 2 – Concord High School

The view from KOP 2 is an open panorama landscape that is representative of unobstructed views of the former NWS Concord from areas adjacent to the installation boundary (Figures 3.13-5 and 3.13-2). The fore- and middle-ground include buildings and explosive ordnance magazines that transition to rolling hills in the middle ground and distant views. The magazines create ordered lines of structures and complex mounded forms in the foreground. Also in the foreground, buildings are geometric and create horizontal lines across the view. Texture of landforms is simple to moderate with rolling hills, regular mounds, and smooth plains. The form, line, texture, and color of the hills tend to be similar throughout, with a line of trees that covers less than 5 percent of the view and contrasts with the matrix.

Figure 3.13-5 KOP 2 – Concord High School



Location: Concord High School from football bleachers
Date: September 8, 2013
Distance from the former NWS Concord: 100 feet to foreground and middle-distance zone

Human and environmental factors increase the visibility of the former NWS Concord from this location. The location of the installation site in the foreground, angle of view below eye-level, and prolonged length of view over a school day make installation features more prominent in the view. The explosive ordnance magazines are camouflaged by color and grassy texture; however, once observed, they may become more prominent because of the regular spatial relationship between magazines. Views from KOP 2 would primarily occur between fall and spring and would drop substantially during summer months.

3.13.3.3 KOP 3 – State Route 4

The view from KOP 3 is feature landscape, centered on Mount Diablo, that is representative of views of the former NWS Concord looking southwest from areas located on the northern and western peripheries of the installation (Figure 3.13-6). The fore- and middle-ground include explosive ordnance magazines that transition to rolling hills in distant views. At this angle, the form of the magazines blends into the surrounding hills and does not divert the viewer's eye from the distant feature of Mount Diablo. Transmission structures in the foreground introduce contrasting linear features that would likely seem to appear and retreat at intervals as viewers traverse SR 4 by car. Form, line, texture, and color of landforms and landscapes in the foreground and middle ground tend to be somewhat similar and only moderately complex, with rolling hills, regular mounds, and smooth plains; these views contrast with the distant view of Mount Diablo. Recently graded soil in the foreground appears coarse.

Figure 3.13-6 KOP 3 – State Route 4



Location: State Route 4 from eastern road shoulder
Date: August 15, 2013
Distance from the former NWS Concord: 5 feet to foreground and middle-distance zone.

Human and environmental factors affect visibility of the former NWS Concord from this location. The feature of Mount Diablo commands the viewer's attention from KOP 3. The former NWS Concord appears at or above eye level, neither diminishing nor enhancing views from KOP 3. Viewers in this area would likely be traveling along SR 4, which has a posted speed limit of 65 miles per hour. Drivers would be focused on the roadway, and passengers traveling west would be oriented away from this vantage point, likely looking north. Passengers in eastbound cars have relatively unobstructed views of the former NWS Concord and have the highest sensitivity to environmental and anthropogenic changes in the landscape. Views from KOP 3 would occur year round, with the duration affected by localized traffic patterns on SR 4, which can become congested during the weekday morning and evening commutes.

3.13.3.4 KOP 4 – Bailey Road

The view from KOP 4 is a panorama landscape (Figure 3.13-7 and Figure 3.13-2). Views similar to KOP 4 would be relatively rare within the ROI but would also occur from elevated portions of SR 4 and Willow Pass Road. The foreground is characterized by grassy, rolling-hill slopes. Regularly spaced and linear explosive ordnance magazines create diagonal lines and regular texture in the middle distance. Distant views include a break in vegetation and structures that are defined by a change in color from the fore- and middle-grounds.

Figure 3.13-7 KOP 4 – Bailey Road



Location: Bailey Road
Date: September 7, 2013
Distance from the former NWS Concord: within the former NWS Concord

The prominence of the former NWS Concord from this KOP varies based on human and environmental factors. The location of the installation site extending from the foreground to distant views, angle of view below eye level, and contrast between the former NWS Concord and the City of Concord (change in color from near to distant views) as well as the contrast in texture and regular spatial relationship between the bunkers in the middle distance increase the prominence of the former NWS Concord features within this view. Conversely, the relatively short length of time the viewer is exposed to views, combined with the motion of other vehicles, distracts the viewer's attention from the installation site.

3.13.3.5 KOP 5 – Panoramic Drive

The view from KOP 5 is an open landscape that is representational of views of the former NWS Concord from the Sun Terrace neighborhood (Figure 3.13-8). The foreground is dominated by single and multi-story buildings and their landscaping (trees and shrubs), while middle and distant views include rolling terrain and foothills. Vertical lines and textures created by transmission structures, landscaping, and vegetation along the periphery of the view create an axis in the middle of the view that opens onto the former NWS Concord. These vertical lines focus the view on a series of ornamental trees in the middle-ground. A large earthen berm on the periphery of the former NWS Concord obstructs views of the ordnance magazines, resulting in a more natural landscape. Prominent colors in the foreground contrast with colors in the middle and distant views.

Figure 3.13-8 KOP 5 – Panoramic Drive



Location: Panoramic and St. George Drives
Date: August 15, 2013
Distance from the former NWS Concord: 0.5 mile to middle-distance zone

The prominence of the former NWS Concord from this KOP varies based on human and environmental factors. The location of the installation site extending from the middle view to the background, angle of view below eye level, and stark contrast between developed landscapes in the foreground against the seemingly rural appearance of the former NWS Concord affect viewer perception. Viewer activity from this KOP is also highly variable, ranging from drivers along Panoramic Drive, who will experience relatively short duration views, to residents who likely experience long-duration views from their homes, including nighttime views. Views from KOP 5 would likely include motion in the foreground in the form of cars, bicycles, and pedestrians.

3.13.3.6 KOP 6 – Beechwood Drive

The view from KOP 6 is an open panorama landscape that is representative of views of the former NWS Concord from the Dana Estates neighborhood (Figure 3.13-9). The fore- and middle-ground include explosive ordnance magazines that transition to rolling hills in the middle-ground and distant views. The magazines create ordered lines of structures and mounded forms in the foreground. Trees introduce vertical forms and distinct colors and textures into the view, causing the eye to pause and move across the middle ground. The strong lines and distinct colors of the buildings on the hillside break the smooth texture of the grass, making these distant features more prominent. The texture and color of landforms is simple to moderate, with smooth rolling hills, coarse sporadic trees, and ordered structures.

Figure 3.13-9 KOP 6 – Beechwood Drive



Location: Periphery of the former NWS Concord from Beechwood Drive
Date: August 15, 2013
Distance from the former NWS Concord: 5 feet to foreground

Human and environmental factors increase the visibility of the former NWS Concord from this location. The location of the former NWS Concord in the foreground, angle of view at and above eye level, and prolonged duration of views experienced by local residents make installation features more prominent in this view. The explosive ordnance magazines are camouflaged by color and grassy texture; however, once observed, these features may become more prominent due to the regular spatial relationship between them. Residents of the Dana Estates neighborhood experience similar views year round and would be highly sensitive to changes in the environment.

3.14 Water Resources

Water resources discussed in this EIS are defined below and include surface water, groundwater, water quality, and floodplains. The region of influence for water resources is the Mt. Diablo/Seal Creek watershed.

3.14.1 Regulatory Framework

Federal and state regulations, policies, and plans are discussed below for surface water and water quality, groundwater, and floodplains.

3.14.1.1 Surface Water and Water Quality

The CWA (33 U.S.C. 1251) established the basic structure for regulating discharges of pollutants into Waters of the U.S. The CWA contains the requirements to set water quality standards for all contaminants in surface waters. The EPA is the designated regulatory authority to implement pollution control

programs and other requirements of the CWA. However, the EPA delegates regulatory authority for the CWA to the applicable state agency for the implementation of pollution control programs as well as other CWA requirements. The Rivers and Harbors Act regulates development and use of the nation's navigable waterways: Section 10 of the act (33 U.S.C. 401) prohibits unauthorized obstruction or alteration of navigable waters and vests the USACE with authority to regulate discharges of fill and other materials into such waters.

The CWA designates water quality standards and establishes permitting and certification processes. Water quality standards are the foundation of a water-quality-based pollution control program, which is implemented through the states for waterbodies within their jurisdiction. These standards define the goals for a waterbody by designating its uses and setting criteria to protect these uses.

Water quality standards consist of three primary elements:

1. Designated best uses (also referred to as beneficial uses)
2. Narrative statements and numeric criteria (i.e., for specific physical, chemical, and biological characteristics) to protect the uses
3. An anti-degradation policy to protect higher-quality waters from being further degraded.

Clean Water Act Sections 305(b) and 303(d)

The CWA requires that each state conduct water quality assessments to determine whether its streams, lakes, and estuaries are sufficiently "healthy" to meet their designated best uses. This information is updated and reported to the EPA every two years. This process is mandated by Section 305(b) of the CWA, and the state prepares 305(b) reports. The 305(b) report is the primary source of information for the development of the "Impaired Waters" list for the states, known as the 303(d) list. Impaired waters are waterbodies that do not meet the water quality standards for their designated uses.

The water quality standards are based on the designated uses. If a waterbody contains levels of pollutants that are greater than the water quality standards, it will not support one or more of its designated/beneficial uses, and its water quality will be considered to be "impaired." Thus, when a waterbody is included on the 303(d) list, the designated/beneficial use that is impaired or the specific water quality standards for that use that have not been achieved are identified. For those waterbodies that are designated as impaired, Section 303(d) of the CWA requires that the state prepare a Total Maximum Daily Load (TMDL). A TMDL identifies sources of pollution and the reductions needed from those identified pollutant sources in order to meet water quality standards.

Clean Water Act Sections 404 and 401

The CWA of 1977 regulates restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. The CWA authorizes the USACE to regulate the discharge of dredged or fill material into the Waters of the U.S. and adjacent wetlands. Waters of the U.S. include surface water features within areas that are traditional navigable waters, interstate waters, all other waters that could affect interstate or foreign commerce, impoundments of Waters of the U.S., tributaries, the territorial seas, and adjacent wetlands (33 CFR 328.3 and 40 CFR 122.2). On June 29, 2015, the USACE and EPA issued the Clean Water Rule, which revised the definition of Waters of the U.S. to provide better clarity and consistency in reviewing projects under the jurisdiction of the CWA (80 FR 124).

Sections 404 and 401 of the CWA regulate the discharge of fill material into Waters of the U.S. to minimize the impacts of proposed projects on the physical, chemical, and biological integrity of the nation's waters. Additional discussion regarding the USACE's regulation of Section 404 of the CWA is provided in Section 3.14.1.2 (Wetlands). The RWQCBs regulate discharges to waters within their

respective jurisdictions through, among other means, administration of CWA Section 401 water quality certifications. For the San Francisco Bay area, the RWQCB administers CWA Section 401 water quality certifications to ensure that projects with federal CWA Section 404 permits do not violate state water quality standards. The California SWRCB has jurisdiction over depositing fill or dredging in "State Only Waters" and issues waste discharge requirements for these projects. Construction projects may require RWQCB approval of a CWA Section 401 water quality certification.

State Water Resources Control Board and San Francisco Bay Regional Water Quality Control Board

In California, the SWRCB administers water rights, pollution control, and water quality functions for the state as part of the CalEPA. Therefore, the SWRCB is responsible for assessing water quality and determining whether waters meet the water quality standards. The SWRCB prepares a water quality assessment report that is submitted to the EPA for review every two years. This report satisfies the requirements of CWA sections 305(b) and 303(d). The *2012 Integrated Report [Clean Water Act 303(d) List/305(b)] Report* was approved by the EPA on July 30, 2015. This report summarizes the water quality conditions in California and includes a comprehensive list of impaired waters (SWRCB 2015).

The SWRCB and nine RWQCBs are responsible for protecting water quality. The SWRCB and the nine RWQCBs were given authority over state water rights and water quality policy under the Porter-Cologne Water Quality Control Act. The SWRCB establishes state-wide policies and regulations for the implementation of water quality control programs mandated by both federal and state water quality statutes and regulations. Through water-quality control plans (basin plans), the RWQCBs designate beneficial uses and establish water quality objectives for waters of the state. As set forth in the California Water Code Sections 13240-13248, each specific basin plan designates or establishes 1) beneficial uses to be protected, 2) water quality objectives, and 3) a program of implementation to achieve the stated water-quality objectives. The former NWS Concord is located within the region covered by the *San Francisco Bay Basin Water Quality Control Plan* (San Francisco Bay RWQCB 2013).

The California Code of Regulations, Title 23 Waters, Section 659 Beneficial Use of Water, sets forth the following beneficial uses:

- Domestic
- Irrigation
- Power
- Municipal
- Mining
- Industrial
- Fish and Wildlife Preservation and Enhancement
- Aquaculture
- Recreational
- Stock-watering
- Water Quality
- Frost Protection
- Heat Control

The San Francisco Bay Region RWQCB establishes beneficial uses for the region in which the former NWS Concord is located. These beneficial uses are discussed in detail in Section 3.14.5.1 below.

In addition to establishing the beneficial uses to be protected, the San Francisco Bay RWQCB has established water quality objectives to define appropriate levels of environmental quality and to control activities that can adversely affect aquatic systems (San Francisco Bay RWQCB 2013). These water quality objectives include narrative and numerical objectives for both surface water and groundwater.

Clean Water Act Section 402

The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the NPDES permit process (CWA Section 402). The NPDES program requires all industrial facilities and municipalities of a certain size that discharge pollutants into Waters of the U.S. to obtain a permit. Stormwater discharges into the San Francisco Bay region are commonly controlled through general and individual NPDES permits, which are administered by the San Francisco Bay RWQCB.

California Fish and Game Code, Sections 1600–1603

This statute regulates activities that would "substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of a natural watercourse" that supports fish or wildlife resources. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes only watercourses that have a surface or subsurface flow that supports or has supported riparian vegetation. The CDFG has interpreted the term "streambed" to encompass all portions of the bed, banks, and channel of any stream, including intermittent and ephemeral streams, extending laterally to the upland edge of riparian vegetation (BLM 2012). A Lake and Streambed Alteration Agreement must be obtained from the CDFW for any proposed project that would result in an adverse impact on a river, stream, or lake. If fish or wildlife would be adversely affected in any substantial way, an agreement to implement mitigation measures identified by the CDFW would be required.

3.14.1.2 Wetlands

Clean Water Act Sections 404 and 401

As described in Section 3.14.1.1, the CWA of 1977 regulates restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters, including wetland resources. The delineation of these wetland resources is fundamental to USACE and EPA regulatory responsibilities under Section 404 of the CWA. Wetland delineation consists of standardized procedures that are used to determine whether a wetland is present on a site and, if so, to establish its boundaries in the field. In combination with current regulations and policies, delineation methods help define the area of federal responsibility under the CWA, within which the agencies attempt to minimize the impacts of proposed projects to the physical, chemical, and biological integrity of the nation's waters. In determining jurisdiction under the CWA, the USACE is governed by federal regulations (33 CFR 320–330) that define wetlands. The USACE released the *Regional Supplement to the USACE Wetlands Delineation Manual for the Arid West Region (Version 2.0)* in September 2008, which is the current accepted standard for this region. However, as the delineation was conducted in 2007, the December 2006 USACE Interim Regional Supplement was the approved delineation manual at the time.

The USACE evaluates permit applications for essentially all construction activities that occur in the nation's waters, including wetlands. USACE permits are also required for any work in the nation's navigable waters. Under Section 404(b)(1) guidelines, the applicant must demonstrate that a practicable alternative that minimizes damage to the environment does not exist or that the nation's waters would not

be significantly degraded. For projects involving impacts on wetlands or Waters of the U.S., all impacts must be adequately compensated through mitigation. General permits are issued on a nationwide, regional, or state basis, depending upon the activity involved (EPA 2017). Individual permits may be issued for projects that involve significant impacts. Individual permits typically involve some form of compensatory mitigation in order to offset impacts on the nation's waters. In 2008, the USACE and the EPA issued the *Final Rule for Compensatory Mitigation for Losses of Aquatic Resources* (40 CFR 230) to provide guidance and clarification for acceptable forms of mitigation for impacts on the nation's waters.

The RWQCB regulates Section 401 of the CWA, and this is discussed further in Section 3.14.1.1 (Water Resources).

3.14.1.3 Groundwater

Congress originally passed the Safe Drinking Water Act in 1974 (42 U.S.C. Section 300 *et seq*.) to protect public health by regulating the nation's public drinking water supply. The law, as amended in 1986 and 1996, includes numerous requirements to protect drinking water and its sources. A sole-source aquifer, as defined under Section 1424(e) of the Safe Drinking Water Act, is an aquifer that has been designated as the sole or principal drinking water source for the area and that, if contaminated, would create a significant hazard to public health. Under the Safe Drinking Water Act, each state is required to prepare its own wellhead protection program.

A wellhead protection area is defined as the surface and subsurface area surrounding a water well or wellfield that supplies a public water system through which contaminants are reasonably likely to move toward and reach the water well or wellfield. In California, the state's wellhead protection program falls under the Drinking Water Source Assessment and Protection (DWSAP) Program administered by the California Department of Public Health. The State of California's wellhead protection program was approved by the EPA in 1999 (University of California Davis 2001).

As discussed above, the San Francisco Bay RWQCB regulates surface water and groundwater quality and protects groundwater through the identification of beneficial uses and water quality objectives for each groundwater basin and regulating activities that can impact the beneficial uses of groundwater. Specific beneficial uses for the groundwater in the vicinity of the former NWS Concord are discussed in Section 3.14.4.2.

3.14.1.4 Floodplains

EO 11988 (Floodplain Management) and the regulations of the National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA) (44 CFR 60, Criteria for Land Management and Use) establish avoidance of development in floodplains as federal policy. FEMA defines the regulatory 100-year floodplain as the area that would be covered by a flood that has a 1 percent chance of occurring in any given year (often referred to as the "100-year flood event"). Development in the regulatory floodplain that would affect or re-direct flood flows is discouraged because floodplains provide a natural means of detaining floodwaters and thus protecting downstream properties from damage.

Under the authority of EO 11988, Floodplain Management, federal agencies are required to avoid, to the extent possible, the long- and short-term impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development where there is a practicable alternative. Federal agencies are also required to reduce the risk of flood loss; minimize the impacts of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values provided by the floodplain.

At the local level, the City of Concord's municipal code, Chapter 34 Flood Management, sets forth policies and requirements to protect the public and minimize public and private losses due to flood conditions associated with land in flood-prone areas.

3.14.2 Surface Water

Surface water includes streams, drainages, canals, and ponds. Approximately 21 acres (0.4 percent of the overall site) of these features are present within the former NWS Concord (see Figure 3.14-1).

The former NWS Concord is located within the Mt. Diablo Creek watershed, which covers approximately 23,800 acres (37 square miles) in the north-central part of Contra Costa County (Contra Costa Resource Conservation District 2006). This watershed is heavily urbanized throughout the developed areas of the City of Concord and Clayton (San Francisco Bay RWQCB 2007b). However, the primary land use within the watershed is open space and/or agriculture (approximately 54 percent of the total watershed) (Contra Costa Resource Conservation District 2006). Primary creeks within the watershed include Mt. Diablo Creek, Mitchell Creek, and Donner Creek.

Mt. Diablo Creek is the primary surface water feature within the former installation. The headwaters of Mt. Diablo Creek consist of approximately 12 small, intermittent, and perennial streams originating on the north slope of Mount Diablo. The main stem of Mt. Diablo Creek flows approximately 17.2 miles from the headwaters through agricultural land in the upper watershed before flowing through the cities of Clayton and Concord as well as the former NWS Concord before emptying into Suisun Bay (ESA PWA 2012; Contra Costa Resource Conservation District 2006). Approximately 4.8 miles of Mt. Diablo Creek flows through the former NWS Concord. Mt. Diablo Creek and its tributaries are seasonally intermittent or fed by springs and flow year round (Contra Costa Resource Conservation District 2006). The creek drains approximately 78 percent of the area of the former installation. The remaining 22 percent of the site drains toward the Holbrook Channel (ESA PWA 2012).

Mt. Diablo Creek enters the former installation at Bailey Road and flows northwest along Kinne Boulevard, under Willow Pass Road and SR 4, through the Diablo Creek Golf Course, and then discharges into Suisun Bay (see Figure 3.14-1; ESA PWA 2011). The creek was historically re-routed and has been impacted by development and increased runoff in the watershed, resulting in significant erosion along its banks within the former installation boundaries, particularly between Bailey Road and Willow Pass Road (ESA PWA 2011). As part of a reach-specific study of the creek, very steep banks (15 to 20 feet high on both sides) were documented in the bunker area, upstream of Willow Pass Road. The creek is culverted under local road crossings in this area, and flooding has been observed behind the culverts during high flows (ESA PWA 2011). Mt. Diablo Creek is an ephemeral stream, with flows following rainfall events that dissipate quickly.

The largest tributary drainage that flows into Mt. Diablo Creek on the former NWS Concord site is Willow Pass Creek. Flows within this creek are characterized as flashy[7] because peak flows correspond directly to high rainfall amounts, followed by a significant decrease in flow (H.T. Harvey and Associates 2012). Spring-fed perennial pools are present within this creek.

As indicated above, approximately 22 percent of the site drains toward Holbrook Channel, a constructed tributary to Walnut Creek. The channel begins near the western edge of the former installation and flows along Willow Pass Road, then north through residential neighborhoods in the City of Concord until it joins Walnut Creek near Marsh Drive (ESA PWA 2011).

[7] "Flashy" refers to intense streamflow and describes flows during storm events that rise very quickly and then drop very quickly.

Multiple short, steep tributaries drain the Los Medanos Hills on the eastern portion of the site down to the Mt. Diablo Creek valley. These ephemeral tributaries dissipate on the valley floor and do not directly connect to Mt. Diablo Creek (ESA PWA 2011). The majority of these drainages are comprised of steep, non-vegetated, narrow, swale-like features that extend westward toward Mt. Diablo Creek. In locations where the slope of the hills steepens, the channels become incised. Occasional in-channel ponds are present, as discussed below.

3.14.2.1 Ponds

The former NWS Concord site includes approximately 20 small ephemeral stock ponds, watering holes, and seepage ponds, the majority of which are located in the Los Medanos Hills. Water levels in the ponds vary widely throughout the year, gradually drying out in the summer, and are highest in the winter due to the collection of runoff. Two of these ponds—Cistern Pond and Springs Pond—are perennial; however, Springs Pond was not found to contain water during field work conducted in March 2009 (H. T. Harvey and Associates 2012). In addition, the Diablo Creek Golf Course ponds are man-made and entirely supported by an artificial water supply.

3.14.2.2 Canals

In addition to the natural features discussed above, two canals cross the site, as indicated on Figure 3.14-1. Both canals are owned by the U.S. Bureau of Reclamation and are leased to the CCWD (City of Concord 2012). Refer to Section 3.2, Land Use, for a discussion of the history of the canals and a detailed description of each one.

3.14.3 Wetlands

Wetlands are defined as areas that are periodically or permanently inundated by surface or groundwater and support vegetation adapted to saturated soils. Wetlands are recognized as important natural systems because of their value to fish and wildlife, and their functions as storage areas for flood flows, groundwater recharge, nutrient recycling, and water quality improvement. Seasonal and perennial aquatic communities on-site consist of freshwater marsh and seasonal wetlands, including seeps and springs. These features are located throughout the site and are formed when rainfall collects in topographic depressions that are underlain by clays and clay loams with high water-holding capacities (City of Concord 2012). The largest area of surface ponding occurs in the flat fields adjacent to a perennial spring near the old airfield. Vernal pools (i.e., pools that are underlain by soil having a restrictive subhorizon and supporting endemic plant species and/or invertebrate species) were determined to be entirely absent from the former NWS Concord (City of Concord 2012).

Jurisdictional Wetland and Non-Wetland Features

Federal Jurisdiction. Within the former NWS Concord, there are jurisdictional and non-jurisdictional waters. Jurisdictional waters refer to those waters defined as "Waters of the U.S.," which are subject to the jurisdiction of the USACE under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. As per the CWA, Waters of the U.S. encompass all waters used or that could be potentially used for interstate commerce, including all waters which are subject to the ebb and flow of the tide; all interstate waters including wetlands; other waters such as mudflats, sandflats, wetlands, wet meadows, natural ponds for which the use, degradation, or destruction of could affect interstate or foreign commerce; impoundments and tributaries of Waters of the U.S.; territorial seas; and wetlands adjacent to Waters of the U.S. as defined above (33 CFR 328.3). Under Section 10 of the Rivers and Harbors Act, Waters of the U.S. are referred to as navigable waters, and are those waters that are subject to the ebb and flow of the tide shoreward of the mean high water mark, and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce (33 CFR 322.1).

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\Surface_Waters.mxd

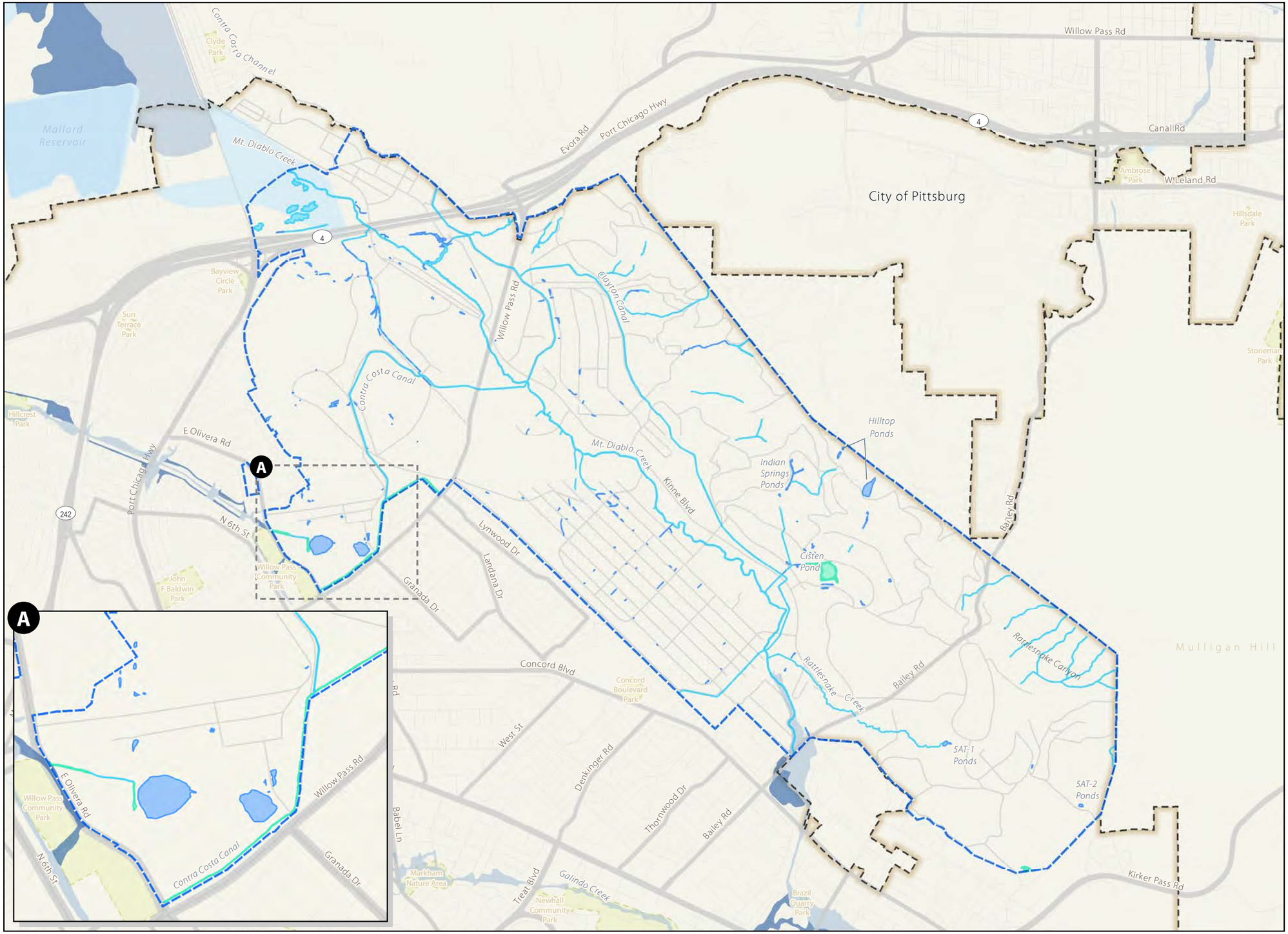


Figure 3.14-1

Surface Waters and Wetlands

Former NWS Concord

Concord, California

Legend

- Former NWS Concord
- City Limits

- Seasonal Wetlands
- Creeks / Drainages / Canals / Ponds
- Freshwater Marsh

Flood Zone
- A
- AE
- AO

Zone A- 100-year floodplain in which no base flood elevations or depths exist.
Zone AE- 100-year floodplain in which base flood elevation exists.
Zone AO- Subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow).

N

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; H. T. Harvey & Associates, 2009.
Federal Emergency Management Agency, 2013.

This page intentionally left blank.

Based on field surveys and an in-field review by the USACE, the USACE concluded in its written jurisdictional determination of the extent of navigable waters and Waters of the U.S. at the former NWS Concord that the only aquatic/wetland features that the USACE considered non-jurisdictional are the Contra Costa Canal, the Clayton Canal, and the seven golf course ponds (Hicks 2011). Therefore, the total area of federally jurisdictional waters under the CWA Section 404 within the boundaries of the former NWS Concord is approximately 36.50 acres (see Table 3.14-1).

Table 3.14-1 Federal and State Jurisdictional Wetlands

Jurisdictional Agency	Area (acres)
USACE	36.50
RWQCB only	48.67

Source: USACE 2016

State Jurisdiction. Waters are also regulated at the state level by the RWQCB. The RWQCB regulates discharges that may affect "waters of the State" as defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters within the boundaries of the state" (California Water Code, Division 7 Water Quality). Therefore, "waters of the state" include Waters of the U.S. and surface waters that are not Waters of the U.S.—for example, non-jurisdictional wetlands (SWRCB n.d.). The 36.50 acres of USACE jurisdictional waters/wetlands would also be subject to state jurisdiction. Other non-jurisdictional wetlands and other waters that occur on-site are associated with the golf course ponds and canals (Hicks 2011).

3.14.4 Groundwater

Groundwater is water found in soil pore spaces and in the fractures of rock formations beneath the ground surface; it can be collected using wells, tunnels, or drainage galleries, or it may flow naturally to the ground surface via seeps or springs. An aquifer is an underground layer of water-bearing permeable rock or unconsolidated materials (e.g., gravel, sand, silt, or clay) that can yield a usable quantity of water. A groundwater basin is defined as a hydrogeologic unit containing one large aquifer or several connected and interrelated aquifers (San Francisco Bay RWQCB 2013).

Groundwater beneath the former NWS Concord is present in two groundwater basins: the Clayton Valley Groundwater Basin and an unnamed/unmapped groundwater basin. Mt. Diablo Creek separates these two groundwater basins underlying the installation, with the Clayton Valley Groundwater Basin on the western portion of the former NWS Concord site and an unnamed/unmapped groundwater basin on the eastern portion of the site (San Francisco Bay RWQCB 2013). The Clayton Valley Groundwater Basin is underlain by recent alluvial deposits and older alluvium valley fill deposits, together more than 700 feet thick (California Department of Water Resources 2003). Aquifers in this basin are hydrologically connected to the Suisun Bay. Limited data exist regarding the occurrence and movement of groundwater in the basin (California Department of Water Resources 2003).

Beneath the former NWS Concord, groundwater is typically found in the coarser sand and gravel units of the unconsolidated alluvial deposits. In the low-lying valley portions of the former installation, groundwater is found at depths of 30 to 50 feet under semi-confined to confined conditions (Navy April 2006). As part of groundwater sampling at IRP Site 13 (Burn Area) and Site 22, which are both within low-lying flat areas, groundwater was first encountered at depths of about 20 to 25 feet below ground surface (bgs) under semi-confined to confined conditions. Given the higher topographic elevations found at the former installation, depth to groundwater can be 100 feet or more (Tetra Tech, Inc., 2003).

Groundwater at the former installation supplies wells used to water livestock on-site through grazing leases and to irrigate the Diablo Creek Golf Course. Additionally, two springs on-site are used as a water supply for wildlife and cattle. One spring at a former ranch house on the installation is no longer in use

and is capped (Navy April 2006). A number of groundwater seeps are located within the western portion of the former installation, in the vicinity of the former air field. These seeps form a tributary channel to Holbrook Channel (ESA PWA 2012).

3.14.5 Water Quality

Water quality describes the chemical and physical composition of water as affected by natural conditions and human activities.

3.14.5.1 Surface Water Quality

As indicated above in Section 3.14.1, the San Francisco Bay RWQCB regulates surface water and groundwater quality in the region. The *San Francisco Bay Water Quality Control Plan* (Basin Plan) identifies eight existing beneficial uses for Mt. Diablo Creek; these are defined in Table 3.14-2 (San Francisco Bay RWQCB 2013).

Table 3.14-2 Existing Beneficial Uses for Mt. Diablo Creek

Beneficial Use	Description
Cold Freshwater Habitat	Uses of water that support cold water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Fish Migration	Uses of water that support habitats necessary for migration, acclimatization between fresh water and salt water, and protection of aquatic organisms that are temporary inhabitants of waters within the region.
Preservation of Rare and Endangered Species	Uses of waters that support habitats necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened, or endangered.
Fish Spawning	Uses of water that support high-quality aquatic habitats suitable for reproduction and early development of fish.
Warm Freshwater Habitat	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Wildlife Habitat	Uses of waters that support wildlife habitats, including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.
Water Contact Recreation	Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and uses of natural hot springs.
Non-Contact Water Recreation	Uses of water for recreational activities involving proximity to water but not normally involving contact with water, where water ingestion is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidal pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Source: San Francisco Bay RWQCB 2013

According to the *2012 Integrated Report [Clean Water Act 303(d) List/305(b)] Report.* Mt. Diablo Creek is listed as impaired for the beneficial use of Cold Freshwater Habitat due to the pollutant diazinon. The source of pollution has been identified as urban runoff/storm sewers (SWRCB 2010). This impairment is being addressed by an EPA-approved TMDL. Mt. Diablo Creek is also listed as impaired for the same

beneficial use due to toxicity from an unknown source. A TMDL is expected for toxicity in 2021 (SWRCB 2010).

The diazinon impairment is being addressed under the Diazinon and Pesticide-Related Toxicity in Urban Creeks TMDL. The strategy of the TMDL is to eliminate and prevent pesticide-related toxicity in the San Francisco Bay Area urban creeks, including Mt. Diablo Creek (CRWQCB 2005). The TMDLs implementation strategy is to promote the use of Integrated Pest Management practices.

As part of the SWRCB Surface Water Ambient Monitoring Program, water quality monitoring was conducted in the Mt. Diablo Creek watershed in 2003. Monitoring efforts included three stations along the main stem of Mt. Diablo Creek in proximity to former NWS Concord: the Port Chicago Highway site northwest of the former NWS Concord (near the mouth of Mt. Diablo Creek), the Diablo Creek Golf Course adjacent to NWS Concord, and along Bailey Road at Laura Drive, adjacent to the southern portion of the former installation (San Francisco Bay RWQCB 2007b). Monitoring included the following parameters: benthic macroinvertebrates and physical habitat, temperature, dissolved oxygen (DO), pH, and water chemistry and toxicity. Overall, the monitoring results indicated that benthic macroinvertebrate assemblages in the watershed, including those of the three stations highlighted for their proximity to the former NWS Concord, reflected poor conditions; temperature guidelines were exceeded in the summer; DO levels were exceeded in all seasons; and the samples from the mouth of Mt. Diablo Creek evidenced toxicity due to exceedances of quality benchmarks (San Francisco Bay RWQCB 2007b).

A more recent assessment of water quality in the Mt. Diablo Creek watershed was provided in the *Mount Diablo Creek Watershed Assessment* (Contra Costa Resource Conservation District 2006). Pathogens, namely *E. coli*, are present in almost all creeks within the watershed, including Mt. Diablo Creek. Chemical contamination was also documented in the watershed assessment; this contamination stems from sites within the former installation boundaries where petroleum, paints, pesticides, metals, PCBs, VOCs, dioxin, petroleum hydrocarbons, and other chemicals have been detected (Contra Costa Resource Conservation District 2006).

3.14.5.2 Groundwater Quality

The California Department of Water Resources evaluated the characteristics of groundwater basins in the region and throughout the state in California's Groundwater, Bulletin 118, which was produced in 2003. Existing and potential beneficial uses applicable to the Clayton Valley Groundwater Basin are provided in Table 3.14-3.

Table 3.14-3 Existing and Potential Beneficial Uses for the Clayton Valley Groundwater Basin

Beneficial Use	Description
Existing Beneficial Use	
Municipal and Domestic Supply	Uses of water for community, military, or individual water supply systems, including, but not limited to, drinking water supply.
Proposed Beneficial Uses	
Industrial Process Supply	Uses of water for industrial activities that depend primarily on water quality.
Industrial Service Supply	Uses of water for industrial activities that do not depend primarily on water quality, including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel-washing, fire protection, and oil well repressurization.

Table 3.14-3 Existing and Potential Beneficial Uses for the Clayton Valley Groundwater Basin

Beneficial Use	Description
Agricultural Supply	Uses of water for farming, horticulture, or ranching, including, but not limited to, irrigation, stock-watering, or support of vegetation for range grazing.

Source: San Francisco Bay RWQCB 2013

At the former NWS Concord, groundwater quality has been characterized as fair, with high concentrations of total dissolved solids, hardness, and chlorides (Navy April 2006).

Groundwater sampling was conducted at IRP sites 13 and 22 in 2003. A total of five monitoring wells were sampled, four at IRP Site 13 and one at IRP Site 22. Monitoring was conducted for parameters including temperature, pH, turbidity, specific conductance, and DO and focused on detection of perchlorate[8]. Perchlorate was indicated in three of the four wells sampled at Site 13; two of these three wells exceeded the adopted screening levels (Tetra Tech, Inc., 2003), as discussed in Section 3.8, Hazards and Hazardous Substances. Perchlorate was also detected in the well at IRP Site 22; however, the concentration in this well was below the screening level. Due to the detected perchlorate presence, further sampling and remedial work is ongoing.

3.14.6 Floodplains

A floodplain is flat, or nearly flat, land adjacent to a stream or river that experiences occasional or periodic flooding. FEMA maps flood-prone areas as part of the National Flood Insurance Program; these flood hazard maps typically delineate the 100-year floodplain. The Flood Insurance Rate Maps (FIRMs) produced by FEMA typically do not include federal facilities such as the former NWS Concord. Based on a review of available FIRMs for the City of Concord dated June 16, 2009, only two small areas of the former NWS Concord, north of SR 4 and primarily east of the Port Chicago Highway and along the westernmost end of Bailey Road, have been mapped. Both areas are associated with the floodplain of Mt. Diablo Creek and include the Diablo Creek Golf Course and a small area along the installation boundary near Bailey Road (see Figure 3.14-1; FEMA 2009). The first mapped floodplain area is indicated as Zone A, which corresponds to areas subject to inundation by the 1-percent annual chance flood event that are not associated with base flood elevations or flood depths. The area of Zone A within the boundaries of former NWS Concord is approximately 67.6 acres. The second mapped floodplain area, near Bailey Road, is indicated as Zone AE, which corresponds to areas subject to inundation by the 1-percent annual chance flood event; the area within the former NWS Concord is approximately 12.6 acres.

FEMA is currently in the process of developing a detailed hydraulic model of Mt. Diablo Creek that is reflective of existing conditions. The model will then be used to delineate and map the 100-year floodplain within the former NWS Concord boundaries; this process is anticipated to take several years (ESA PWA 2011).

Historical records indicate that flooding occurs in the Mt. Diablo creek watershed on an annual basis. Areas affected by flooding include the entrance gate in the Administration Area, the area downstream of SR 4 near the Diablo Creek Golf Course, and Port Chicago Highway northwest of the former installation (Navy April 2006).

[8] Perchlorate (ClO_4) is a naturally occurring as well as a manmade chemical that is used to produce rocket fuel, fireworks, flares, and explosives.

Although floodplains have not been mapped by FEMA on the former NWS Concord, FEMA and the CCCFC&WCD have both calculated peak discharges for Mt. Diablo Creek. Discharge is the rate of flow in a stream. Peak discharge is the flow that occurs when the maximum flood stage or depth is reached in a stream as a result of a storm event (USDA, Soil Conservation Service, 1989). Estimated peak discharges at two locations within the former NWS Concord boundaries are provided in Table 3.14-4.

Table 3.14-4 Peak Discharge Estimates for Mt. Diablo Creek

Location along Mt. Diablo Creek	Drainage Area (square miles)	Peak Discharge (cfs)					
		10-year Storm		50-year Storm		100-year Storm	
		FEMA	CCCFC & WCD	FEMA	CCCFC & WCD	FEMA	CCCFC & WCD
At Bailey Road	22.1	3,670	4,210	5,670	6,420	6,350	7,170
At SR 4	30.1	4,240	4,300	6,660	6,700	7,470	7,570

Source: ESA PWA 2011.

Key:
cfs = cubic feet per second
CCCFC & WCD = Contra Costa County Flood Control and Water Conservation District
FEMA = Federal Emergency Management Agency

This page intentionally left blank.

4 Environmental Consequences

4.1 Introduction

Chapter 4 describes the potential direct, indirect, short-term, and long-term impacts on the human and natural environmental resources from the disposal of surplus property and the subsequent reuse of the property by the local community under Alternative 1, Alternative 2, or the No Action Alternative.

Alternative 1 is the reuse of the property in a manner consistent with the City of Concord's Area Plan (Figure 2-1). Alternative 2 is generally consistent with the policies adopted by the City of Concord during reuse planning between 2008 and 2012 but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development (Figure 2-2). In addition, the Navy is evaluating a No Action Alternative, as required by the CEQ regulations implementing NEPA. The No Action Alternative is the retention of surplus property at the former NWS Concord by the U.S. government in caretaker status. Under the No Action Alternative, no reuse would occur at the surplus property.

Components of the proposed action that will be evaluated in Chapter 4 include:

1. Disposal of the property;
2. Foreseeable reuse of the surplus property, which will include but not be limited to:
    i. Construction of a mix of office, retail, residential, community facilities, parks, light industrial, and research and development uses;
    ii. Development of new infrastructure, including utilities and transportation networks;
    iii. Habitat restoration and management; and
    iv. Creation and improvement of a new regional park
3. Establishment of a permanent residential population and creation of new jobs; and
4. Interim land uses and activities that do not conflict with the proposed reuse of the property.

Both Alternative 1 and Alternative 2 assume full build-out over a 25-year period; the period of analysis for this EIS is during construction and when full build-out has been completed.

Table 4.1-1 provides a summary of the development footprint for Alternatives 1 and 2, including impervious surface totals, at full build-out.

Table 4.1-1 Summary Comparison of Proposed Alternatives: Development Footprint and Impervious Surface Totals

District	Approximate Size (acres)		Total Impervious Surface (acres)	
	Alt 1	Alt 2	Alt 1	Alt 2
North Concord TOD Core	55	80	47.8	67.8
North Concord TOD Neighborhoods	90	85	71.4	67.6
Central Neighborhoods	180	200	136.9	148.3
Village Centers	70	50	67.5	39.3

Table 4.1-1 Summary Comparison of Proposed Alternatives: Development Footprint and Impervious Surface Totals

District	Approximate Size (acres)		Total Impervious Surface (acres)	
	Alt 1	Alt 2	Alt 1	Alt 2
Village Neighborhoods	740	730	462.4	457.2
Commercial Flex	210	210	192.2	192.2
Campus	120	80	65	40
First Responder Training Center	80	–	48	-
Greenways, Citywide Parks, and Tournament Facilities	786	786	215.3	215.3
Conservation Open Space	2,715	2,825	135.8	141.3
Total[1, 2]	**5,046**	**5,046**	**1,442**	**1,369**

[1] The total area of the surplus property is 4,972 acres. The total area being evaluated for reuse in this EIS is 5,046 acres because the city's Area Plan included some areas, such as the North Concord/Martinez BART Station and the Diablo Creek Golf Course, that are not part of the Navy's surplus property. All potential impacts will be analyzed in this EIS.

[2] Total approximate land use includes city parks and/or streets as an overall component of all districts except First Responder Training Center; Greenways, Citywide Parks, and Tournament Facilities; and Conservation Open Space.

The City of Concord's reuse planning process is the primary factor in defining the action alternatives considered in this EIS. However, implementation of the reuse will be dynamic, long term, and dependent on market and general economic conditions beyond the control of both the Navy and the City of Concord. Specific activities and uses that may be developed at the former NWS Concord site cannot be predicted precisely at this time; nonetheless, the reuse of the former NWS Concord is expected to take place in a manner generally consistent with the nature of uses described in the adopted Area Plan.

In addition, specific development proposals throughout the build-out period will need to follow a design review and permitting process by the City of Concord. The city is considering the entitlement procedures that will be required to develop specific development districts, including the possibility of implementing an expedited permit approval process. The real estate development team, or master developer, that will lead the first stage of the development of the former NWS Concord was selected in 2016 by the Concord city council, sitting as the LRA. Procurement of all land use and regulatory approvals and permits, including subsequent or supplemental environmental assessments required under CEQA, will be the responsibility of the master developer. The master developer will also be responsible for defining specific plans, design standards, and zoning based on the Concord Reuse Project Area Plan and Concord's 2030 General Plan guidelines and standards.

Resource areas evaluated in Chapter 4 include: land use (4.2); socioeconomics and environmental justice (4.3); air quality and greenhouse gas emissions (4.4); biological resources (4.5); cultural resources (4.6); topography, geology, and soils (4.7); hazards and hazardous substances (4.8); noise (4.9); public services (4.10); transportation, traffic, and circulation (4.11); utilities and infrastructure (4.12); visual resources and aesthetics (4.13); and water resources (4.14).

As discussed in Chapter 1, the City of Concord evaluated the potential impacts of reuse of the former NWS Concord under CEQA in accordance with its reuse planning process. The Navy has also conducted an evaluation of the reuse of the former NWS Concord in this EIS in accordance with NEPA, as the reuse of the former NWS Concord is a reasonably foreseeable consequence of the Navy's disposal action. The Navy's analysis has been conducted independently of the city's analysis, and also includes Alternative 2 and the No Action Alternative, which were not considered in the CEQA EIR. Therefore, the results of the impact analyses presented in Chapter 4 may differ from the results presented in the City of Concord's FEIR (City of Concord 2010) and FEIR Addendum (City of Concord January 2012a). The Navy's EIS relies on baseline information that may have changed in the time that has passed since the city's FEIR

(2010) and FEIR Addendum (2012) were prepared. In addition, the Navy used updated models to estimate transportation impacts and air emissions associated with the proposed action. Methodologies used to prepare the impact evaluations are discussed in the respective resource area sections of Chapter 4.

As discussed in Chapter 1, the Concord city council has adopted the Area Plan and certified the FEIR, Findings of Significance, and a MMRP completed under CEQA to implement the Area Plan for the former NWS Concord. Measures identified in the certified FEIR and its addendum and the associated MMRP that will avoid or mitigate potential environmental impacts are the responsibility of future developers or owners of the property. Compliance with these measures would take place under the jurisdiction and review of the City of Concord and federal, state, and local agencies with regulatory authority over and responsibility for such resources. Where appropriate, the mitigation measures that have been committed to by the City of Concord in its Area Plan (including the MMRP) are identified here in Chapter 4 and in Chapter 7.

4.2 Land Use and Zoning

This section describes the potential land use impacts resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. It includes an examination of site-specific land use changes, direct and indirect[1] impacts on surrounding existing land uses, and consistency with local zoning codes and local and regional land use plans. The study area includes the former NWS Concord, the City of Concord, the City of Pittsburg, and Contra Costa County.

Upon completion of the BRAC disposal process under both Alternatives 1 and 2, the former NWS Concord property would be under the jurisdiction of the City of Concord. The use of the land and the development of new buildings or structures on the site would be regulated by the City of Concord, the city's zoning code, and other applicable plans and regulations.

4.2.1 Alternative 1

4.2.1.1 Onsite Land Use

Under Alternative 1, existing structures, including ammunition bunkers, buildings, the abandoned runway, and other infrastructure, would be demolished, and the site would be developed in accordance with the City of Concord's Area Plan (see Table 4.2-1, Summary Comparison of Proposed Alternatives). The western side of the former NWS Concord would be developed into eight different types of development districts as described in Chapter 2 to form a mixed-use, TOD community. Once full build-out is complete, approximately 2,331 acres of land would be developed and integrated into the City of Concord. Approximately 2,715 acres along the eastern side of the former NWS Concord would become conservation open space with approximately 2,500 acres within that area managed by the EBRPD as a regional park.

The most intense development would occur near the North Concord/Martinez BART Station, where three- to six-story office and residential buildings would be located (see Figure 2-1). The intensity and density of development would progressively decrease toward the edges and to the east, where building height and density would be reduced and village neighborhoods would consist primarily of single-unit detached residences. Neighborhood parks, greenways, and citywide parks, in addition to conservation open spaces, would be located throughout the planning area. New roads would connect to Bailey Road, Willow Pass Road, Salvio Street, Denkinger Road, and Lynwood Drive.

[1] Indirect impacts on surrounding land uses are based on the potential for the proposed action to generate changes in the land use type, pattern, or density.

Full build-out would be implemented over a 25-year period. Full build-out of Alternative 1 would provide for a maximum of 12,272 residential units; 6,115,718 million square feet of commercial/retail space; 2,715 acres of conservation open space; 786 acres of greenways and citywide parks; 80 acres for a first responder training center; and 120 acres for a campus. The majority of conservation open space and parks would be located east of Mt. Diablo Creek to the Los Medanos Hills ridgeline to the east.

Table 4.2-1 Summary Comparison of Proposed Alternatives

District	Approximate Size (acres)		Approximate Number of Housing Units		Approximate Commercial Floor Space (square feet)	
	Alt 1	Alt 2	Alt 1	Alt 2	Alt 1	Alt 2
Development Program						
North Concord TOD Core	55	80	700	2,113	3,000,000	3,000,000
North Concord TOD Neighborhoods	90	85	2,200	4,209	150,000	150,000
Central Neighborhoods	180	200	2,600	2,908	100,000	100,000
Village Centers	70	50	500	500	350,000	350,000
Village Neighborhoods	740	730	6,200	6,143	N/A	N/A
Commercial Flex	210	210	N/A	N/A	1,700,000	1,700,000
Campus	120	80	–[3]	–[3]	800,000	800,000
First Responder Training Center	80	N/A	N/A	N/A	N/A	N/A
Greenways, Citywide Parks, and Tournament Facilities	786	786	N/A	N/A	N/A	N/A
Conservation Open Space	2,715	2,825	N/A	N/A	N/A	N/A
Total[1]	**5,046**	**5,046**	**12,200**	**15,872**	**6,100,000**	**6,100,000**
Maximum Planning Area-wide Total[2]	**5,046**	–[4]	**12,272**	–[4]	**6,115,718**	–[4]

1 The total area of the surplus property is 4,972 acres. The total area being evaluated for reuse in this EIS is5,046 acres because the city's Area Plan included some areas, such as the North Concord/Martinez BART Station and the Diablo Creek Golf Course, that are not part of the Navy's surplus property. All potential impacts will be analyzed in this EIS.

2 The Maximum Planning Area-wide Total is defined in the City of Concord's Area Plan and represents the maximum total number of dwelling units and square feet of commercial floor space that can be built within the planning area. Future planning phases will determine the precise acreage, number of dwelling units, and square feet of commercial space in each district; therefore, the final development program may differ from the one represented in this table as long as the Maximum Planning Area-wide Total is not exceeded. The total number of dwelling units proposed in Alternative 2 would exceed the Maximum Planning Area-wide Total and require an amendment to the City of Concord's General Plan.

3 Dormitories may be considered for the Campus District, depending on the type of campus developed, but are not currently included in the total number of housing units for the planning area.

4 The Maximum Planning Area-wide Total is defined in the City of Concord's Area Plan. The Area Plan does not address Alternative 2; therefore, no value is provided. However, since the total number of dwelling units proposed in Alternative 2 would exceed the Maximum Planning Area-wide Total in the Area Plan, an amendment to the City of Concord's General Plan would be required if implemented.

Grazing leases currently held at the former NWS Concord would expire or be terminated. Livestock grazing within the proposed conservation open space area, however, is expected to continue under the management of the EBRPD in accordance with EBRPD natural resource management policies (EBRPD 2013a, Holt 2014). The Contra Costa Canal and Clayton Canal would continue under U.S. Bureau of Reclamation ownership after transfer; easements for three pipelines would transfer with the property.

The City of Concord will work with the CCWD to determine how water would be supplied to the site. Therefore, these canals could be incorporated into future site-planning efforts as design elements, or the Contra Costa Canal could be relocated underground and the unused Clayton Canal could be abandoned. Should future alterations or modification be considered for implementation, relevant regulations and procedures would be followed.

The proposed action would impact the existing land use conditions within the boundaries of NWS Concord. These impacts would include significant changes to the existing built environment, including the introduction of a densely populated, mixed-use, TOD district with commercial, recreation, and open space land uses. Implementation of Alternative 1 would also result in open public access to the formerly secure and restricted military property; however, altering the existing land use conditions and providing access to previously inaccessible open space would be considered an overall beneficial impact. Therefore, the proposed action would result in significant beneficial impacts on on-site land use under Alternative 1.

4.2.1.2 Regional Land Use

The former NWS Concord lies within the City of Concord's northeast quadrant. Single-family residential is the primary existing land use in the City of Concord. The City of Concord is located in Contra Costa County, which has a diverse mix of land uses in proximity to the former NWS Concord site, including areas of agricultural, industrial, public and semi-public, single-family residential, multiple-family residential, and open space uses. The City of Walnut Creek is located to the south, the City of Clayton to the southeast, the City of Pittsburg and the unincorporated community of Bay Point to the northeast, the unincorporated community of Clyde to the north, and the cities of Martinez and Pleasant Hill to the west. Single-family residences and open space are located in the City of Pittsburg in the area closest to the former NWS Concord. The City of Concord is connected to the cities of Pittsburg, Pleasant Hill, Walnut Creek, Lafayette, Orinda, and other communities in the Bay Area through the BART system.

As discussed in Section 4.3, Socioeconomics and Environmental Justice, development of 12,200 housing units under Alternative 1 is not anticipated to negatively impact the local housing market, primarily because of the expected increase of population in the region, the limited supply of vacant housing currently available, and the length of the build-out period (25 years), which will allow the 12,200 proposed housing units to be more gradually absorbed into the market. The accessibility of the City of Concord to the MSA and the region's rapid growth rate as a whole would assist in the absorption of the additional commercial/retail space. The proposed commercial/retail space is also expected to be built in tandem with the residential development. Therefore, a larger population base would be developing to support this additional commercial/retail development. Because the implementation of Alternative 1 is not anticipated to negatively impact the region's housing and commercial markets, it is also not anticipated to negatively impact land uses as they are currently planned in the City of Concord, City of Pittsburg, and Contra Costa County in the vicinity of the former NWS Concord. This is also further supported by the land use pattern of Alternative 1 and its consistency with regional and local land use plans and zoning ordinances, as discussed in Section 4.2.1.4.

Contra Costa County's Measure C-1990 defines a 65/35 land preservation standard, which requires at least 65 percent of all land in the county be preserved for agriculture, open space, wetlands, parks, and other non-urban uses (Contra Costa County 2010). Prime and unique farmlands are primarily located in eastern Contra Costa County. The Brentwood farming region located east of Mount Diablo has more than 12,000 acres of contiguous prime farmland. Much of this area is within the County Agricultural Core General Plan designation. The Brentwood farming region has experienced development pressure over the past 20 years, which has contributed to a rapid loss of prime farmlands to urban development. Contra Costa County lost almost 40 percent, or 16,000 acres, of its most fertile farmland between 1990 and 2008. While development pressures have eased with the economic downturn of recent years, the Brentwood farming region remains at risk for suburban and estate home development (American Farmland Trust 2011). Reuse of the site under Alternative 1 could have the indirect beneficial effect of relieving development pressure on areas that might possess sensitive resources, such as prime and unique farmland, as future demands for housing and commercial space could be met by reuse of the former installation.

Impacts on regional land use would not be significant under Alternative 1.

4.2.1.3 Adjacent Land Use

In general, proposed land uses along the periphery of the installation would be compatible with existing land uses adjacent to the installation. The following description provides a discussion of land use compatibility adjacent to the former NWS Concord in the City of Concord, City of Pittsburg, and Contra Costa County.

North

The predominant land uses north of SR 4 include office and light industrial along Port Chicago Highway and a portion of Diablo Creek Golf Course. In addition, 115 acres of the former Administrative Area located east of the golf course was transferred to the Army in 2008. This area has been developed as an administrative support area for MOTCO. The Willow Pass Business Park is located north of SR 4 on the east side of the former Administrative Area in unincorporated Contra Costa County. Agricultural lands are located north of the business park and east of the former Administrative Area and Clyde. Because of the type of training and recreational activities that would occur onsite, the proposed First Responder Training Center and the Diablo Creek Golf Course, located in the northwest area of the former NWS Concord, would be compatible with the existing office, industrial, recreational, agricultural, and military land uses located north and northwest of the site.

East

Undeveloped open space along the highlands of the Los Medanos Hills and agricultural land are the primary land uses adjacent to the eastern boundary of the installation. Single-family residences and open space areas are located in the area of the City of Pittsburg closest to the former NWS Concord. The active Keller Canyon Landfill is located east of Bailey Road. The proposed Conservation Open Space would be compatible with the primarily undeveloped open space of the Los Medanos Hills because its primary purpose is resource conservation. The accessible regional parkland would enhance the site's habitat value.

South

Land uses adjacent to the southern boundary of the installation include residential (including community uses such as churches) and undeveloped open space. Most of the undeveloped open space is located in the Los Medanos Hills. Land uses in the City of Clayton that border the installation include parks and recreation, commercial, and high-, low-, and very low-density single-family residential land uses. The proposed Conservation Open Space would be compatible with the primarily undeveloped open space of the Los Medanos Hills because its primary purpose is resource conservation. The Conservation Open Space District's regional park is compatible with the adjacent residential land use and would be an amenity for residents of the existing communities.

West

Existing land uses along the western boundary of the installation are primarily low-density residential, with a mix of education and parks and recreation land uses interspersed throughout. Under Alternative 1, the majority of the new land uses proposed along the western edge of the installation would be village neighborhoods consisting of low- to moderate-density, low-rise, attached single-unit housing and detached single-unit homes along the neighborhood edges. Therefore, housing density would gradually decrease at the edge of the site to provide a gentle transition to adjacent neighborhoods. In addition, greenways and citywide parks would provide a buffer between existing neighborhoods and Alternative 1 proposed land uses. The Neighborhood Frame greenway is a proposed linear park and open space that would contain bicycle and pedestrian trails and other programmed uses. It would also provide a sensitive transition between the Alternative 1 development districts and adjacent neighborhoods.

Existing land uses around the North Concord/Martinez BART Station include four moderate-density residential neighborhoods known as Victory Village, Quinault Village, Sun Terrace, and Holbrook. The

proposed Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core development districts would be located adjacent to these existing neighborhoods. The highest density development in the Central Neighborhood, including mid-rise commercial buildings, would occur near transit stops along Los Medanos Boulevard and decrease toward the edge of the installation boundary to a similar scale and density as existing residences in the Victory Village and Quinault Village neighborhoods. The Neighborhood Frame greenway would provide a sensitive transition between the Central Neighborhood and the Victory Village and Quinault Village neighborhoods. The North Concord TOD Neighborhood and North Concord TOD Core development district buildings would be approximately three to six stories high and decrease in height in the area adjacent to the Holbrook and Sun Terrace neighborhoods. The Neighborhood Frame greenway would also provide a sensitive transition between the North Concord TOD Neighborhood and the Holbrook and Sun Terrace neighborhoods.

Proposed land uses in the Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core development districts would be compatible with existing land uses in the surrounding neighborhoods because potentially incompatible uses, such as three- to six-story office buildings, would be located away from the edges of the development districts. Building sizes and heights would be reduced in all development districts to be consistent with the character of surrounding areas and provide a gradual transition from the existing low to moderate uses to proposed higher-density uses. In addition, greenways and city parks would provide a buffer between Victory Village and Quinault Village. The North Concord/Martinez BART Station and associated parking lot, BART Yellow Line, Port Chicago Highway, and SR 4 interchange with Port Chicago Highway would provide an intrinsic buffer between the North Concord TOD Neighborhood and North Concord TOD Core development districts and the Holbrook and Sun Terrace neighborhoods. Therefore, the implementation of Alternative 1 is compatible with the existing land uses west of the former NWS Concord.

The proposed action would be compatible with adjacent land uses; therefore, implementation of Alternative 1 would not result in significant impacts.

4.2.1.4 Consistency with Land Use Plans and Zoning

Regional

Bay Area Rapid Transit District. Implementation of Alternative 1 is consistent with the applicable strategies contained in the BART Strategic Plan and TOD policy. Alternative 1 would maximize connectivity with the North Concord/Martinez BART Station through the implementation of a TOD with complete streets that provide for multiple forms of transportation, including walking, biking, and mass transit. This is consistent with the BART Strategic Plan's implementation strategies that focus on maximizing connectivity, facilitating multi-modal access, supporting TOD, and enhancing livability and vitality at BART stations. Alternative 1 would also enhance the livability of the area surrounding the BART station and increase BART ridership by providing for a densely populated area with mixed uses within walking distance of the station. This is consistent with BART's TOD policy to increase transit ridership, enhance quality of life at and around BART stations, and promote more intensive, higher-density development near BART-owned properties.

Association of Bay Area Governments. Implementation of Alternative 1 is consistent with the applicable goals contained in the ABAG Strategic Plan. Implementation of Alternative 1 would result in a complete community that provides access to employment, shopping, and mass transit. This is consistent with the ABAG Strategic Plan goal to promote the creation of complete communities with ready, close, and safe access to employment, shopping, amenities, services, and transit. The majority of the installation would be set aside as conservation open space to protect sensitive species habitat and provide a variety of

recreational activities. This is consistent with the ABAG Strategic Plan goal to protect, conserve, and restore critical habitats, recreational areas, and other regionally significant resource areas.

Plan Bay Area: Strategy for a Sustainable Region. Implementation of Alternative 1 is consistent with the land use objectives contained in the Plan Bay Area: Strategy for a Sustainable Region. The land use pattern of Alternative 1 would create a complete community that provides housing and transportation choices to its residents along with convenient access to the North Concord/Martinez BART Station and a range of jobs, schools, amenities, and recreation options. In addition, the majority of the installation would be set aside as conservation open space to protect sensitive-species habitat and provide a variety of recreational activities. This is consistent with the Plan Bay Area's four primary land use objectives that promote a network of complete communities; an increase in the accessibility, affordability, and diversity of housing; job creation; and protection of the region's unique natural environment.

In addition, the Jobs-Housing Connection Strategy, which represents Plan Bay Area's land use component, identifies the former NWS Concord site as a Priority Development Area, which is defined as a prime location for a range of infill development opportunities identified by local governments. Priority Development Areas are a key element of the region's long-term growth strategy by providing capacity to accommodate 80 percent of projected housing growth and 66 percent of new employment in the Bay Area over a 25-year timeframe. The Jobs-Housing Connection Strategy recognizes that the most "transformative" growth within Contra Costa County will occur at the former NWS Concord site. The Community Reuse Area is designated as a Regional Center Priority Development Area. The implementation of Alternative 1 is consistent with the description of the Community Reuse Area Priority Development Area as a place that fosters a vibrant and diverse community, economy, and environment and embraces the principles of smart growth, TOD, and sustainability as expressed in the Concord Reuse Project Area Plan (ABAG and the MTC 2013).

Bay Area Joint Policy Committee. Implementation of Alternative 1 is consistent with the applicable goals and strategies contained in FOCUS, a development and conservation strategy that promotes compact development. Alternative 1 would be an infill development located on land that was previously used by the Navy to store munitions. Alternative 1 would maximize connectivity with the North Concord/Martinez BART Station by concentrating the highest-intensity development near the station and the lowest-intensity land uses away from the station. A high-frequency transit service would connect the BART station to the lower-intensity areas that are not within walking distance. As a mixed-use community, Alternative 1 would include a variety of land uses that would provide jobs, housing, retail, schools, parks, recreation, and services in proximity to one another. As mentioned previously, the majority of the reuse under Alternative 1 would be conservation open space, which would provide habitat for sensitive species and a variety of recreation activities. As a result, the development approach of Alternative 1 is consistent with the goals and strategies in the FOCUS document that encourage infill; compact, complete, and resource-efficient communities near existing or planned transit; a mix of land uses; development in areas served by frequent passenger rail and bus service; and protection and enhancement of significant open space and recreation areas.

Local

Contra Costa County. Implementation of Alternative 1 is consistent with the applicable goals of the Contra Costa General Plan. Under Alternative 1, higher densities would be located near the North Concord/Martinez BART Station, with lower densities further away from the station. All development would be located within the county's urban limit line, and a majority of the installation would be designated conservation open space, which includes the hillsides and ridgelines of the Los Medanos Hills. This area is intended to preserve unique habitat for wildlife and plants and provide a variety of recreational opportunities. Proposed land uses along the periphery of the installation would be compatible

with Contra Costa General Plan land use designations and zoning designations on property adjacent to the installation.

City of Concord. In 2012, the City of Concord amended Concord's citywide Concord 2030 General Plan (City of Concord 2012) to include the Area Plan. By incorporating the Area Plan into the General Plan, the community's state-required "constitution for future development," the City of Concord institutionalized its policies and guidance for reuse of the former NWS Concord. In addition, the Concord City Development Code was revised and adopted in 2012 to be consistent with the 2030 General Plan. The former NWS Concord is zoned Study Area (S), which is an interim zoning district for the installation. Detailed development standards within this zone will be developed prior to adoption of a specific plan or regulatory document that conforms to the General Plan. Therefore, development under Alternative 1 would be consistent with the land use designations adopted in the Concord 2030 General Plan land use element and the Concord City Development Code.

Alternative 1 is also consistent with the key planning concepts identified by the community during the Concord Reuse Project public involvement process. The planning concepts include locating higher-intensity uses around the North Concord/Martinez BART Station; supporting TOD; integrating the site with the existing City of Concord; creating a balance in housing types; and providing a range of community and cultural facilities.

In addition, Alternative 1 is consistent with the applicable goals and policies contained in the land use element of the General Plan. Under Alternative 1, hillsides, ridgelines, and open space along the Los Medanos Hills would be permanently preserved; retail would be within walking distances of residential areas; office space would be located near the North Concord/Martinez BART Station; rural residences located south of the installation would be adjacent to designated conservation open space to preserve their rural character; residential development would provide a variety of housing options; and the open space network would connect with the regional open space network. This is consistent with the General Plan principles and their associated goals that encourage infill residential development, preserve the unique character of rural residential areas, and protect ridgelines and visible hillsides.

Alternative 1 is also consistent with the principles contained in the General Plan that are specific to the reuse of NWS Concord. Under Alternative 1, neighborhoods would be diverse in type and affordability, centered around village centers, and connected to open space, pocket parks, plazas, neighborhood parks, adjacent neighborhoods, and the regional transportation network. In addition, open space and buildings would be similar in scale and compatible with adjacent land uses; a variety of workplace and shopping options would be located throughout the development area; and the Los Medanos Hills, Mt. Diablo Creek, and areas with a slope greater than 30 percent would be dedicated as permanent open space. The transportation network and development pattern under Alternative 1 would emphasize pedestrian and bicycle travel. A network of greenways would be located throughout the reuse area. This is consistent with the General Plan principles and the associated goals that promote:

- achieving a complete and diverse community that provides well-connected neighborhoods and districts with high-quality urban design and convenient access to open space, daily necessities, and regional transit; and
- providing a balance between development and open space on the former NWS Concord site.

In addition, proposed land uses along the periphery of the installation would be compatible with General Plan land use designations and zoning designations on the property adjacent to the installation.

City of Pittsburg. Implementation of Alternative 1 is consistent with the applicable goals of the General Plan. The development pattern under Alternative 1 would be similar to the desired development patterns in the City of Pittsburg. Higher-density development would be located near the North Concord/Martinez BART Station, with the hillsides of the Los Medanos Hills preserved as open space. In addition, the character of the Los Medanos Hills would be preserved, and low-density residential neighborhoods would be provided within the development. The removal of the restrictive easement that extends beyond the perimeter of the installation may allow development in the City of Pittsburg east of the installation. This is consistent with the City of Pittsburg's General Plan land use policies and goals that promote the maintenance of the general character of the hill forms; development of higher-end, low-density residential neighborhoods; and development in the Concord Naval Weapons Station Restricted Federal Easement being allowed when the easement is abandoned.

Proposed land uses along the periphery of the installation would be compatible with General Plan land use designations and zoning designations on property adjacent to the installation. Therefore, implementation of Alternative 1 would not result in significant impacts.

4.2.1.5 Summary

Implementation of Alternative 1 would impact the existing land use conditions within the boundaries of NWS Concord. These impacts would include significant changes to the existing built environment, including the introduction of a densely populated, mixed-use TOD district. Implementation of Alternative 1 would also result in open public access to the formerly secure and restricted military property; however, altering the existing land use conditions and providing access to previously inaccessible open space would be considered an overall beneficial impact.

Implementation of Alternative 1 would not impact regional land uses as they are currently planned in the City of Concord, City of Pittsburg, and Contra Costa County in the vicinity of the former NWS Concord because the proposed action would not negatively impact the region's housing and commercial markets. Reuse of the site under Alternative 1 could have the indirect beneficial effect of relieving development pressure on areas that might possess sensitive resources, such as prime and unique farmland in eastern Contra Costa County, because future demands for housing and commercial space could be met by reuse of the installation.

Proposed land uses along the periphery of the installation would be compatible with existing land uses adjacent to the installation. As described in Section 4.1, specific development proposals throughout the build-out period will need to follow a design review and permitting process by the City of Concord. During this review and permitting process, a site-specific environmental review under CEQA will also need to be completed.

The City of Concord has prepared design standards that are included in its Area Plan. These standards incorporate measures to transition and integrate new development with adjacent land uses. Any developer will be required to incorporate such measures into development plans during the implementation of Alternative 1. The City of Concord will also notify adjacent property owners in the Sun Terrace and Holbrook neighborhoods and the Coast Guard housing complex to review specific plans or proposals for development adjacent to the North Concord/Martinez BART Station (City of Concord February 2010).

The development approach of Alternative 1 is consistent with applicable principles, policies, goals, and strategies outlined in regional and local plans.

4.2.2 Alternative 2

Alternative 2 represents a higher intensity of use overall, with development and conservation designated in largely the same locations, a similar development program, and the same site-wide development principles and standards as Alternative 1. The higher intensity use in Alternative 2 results from a slightly different land use pattern and increased residential development. Land use impacts resulting from the implementation of Alternative 2 are discussed in the sections below. The impact discussion focuses on the primary differences between Alternative 1 and Alternative 2: a modified land use pattern and increased residential development on the site of the former NWS Concord property.

4.2.2.1 Onsite Land Use

Similar to Alternative 1, existing structures would be demolished under Alternative 2. The site would be redeveloped in accordance with the Alternative 2 (Intensified Reuse) development program (see Table 4.2-1, Summary Comparison of Proposed Alternatives). The western side of the former NWS Concord would be developed into seven different types of development districts as described in Chapter 2 to form a mixed-use, TOD community. The development program for Alternative 2 differs from Alternative 1 in the following ways (see Chapter 2 for further detail):

- Alternative 2 does not include the First Responder Training Center district.
- In Alternative 2, the Campus district is located in the area occupied by the First Responder Training Center district in Alternative 1 (north of SR 4).
- An additional Village Neighborhood and Village Center are located in the area occupied in Alternative 1 by the Campus district.
- The TOD Core, TOD Neighborhood, and Central Neighborhood development districts surrounding the BART station are somewhat expanded in Alternative 2.
- The total number (and corresponding area) of Village Centers is smaller in Alternative 2.
- The overall number of residential units in Alternative 2 (15,872) is greater than in Alternative 1 (12,272) and would exceed the maximum planning-area-wide total identified in the Area Plan. Most of this increase is planned within the North Concord TOD Core, North Concord TOD Neighborhood, and Central Neighborhood districts rather than the Village Neighborhood districts.
- The area occupied in Alternative 1 with the Village Neighborhood district south of the proposed Los Medanos Boulevard and west of Willow Pass Road and a portion of one of the two Central Neighborhood districts would be developed as an additional citywide park under Alternative 2.

Once full build-out is complete, approximately 2,221 acres of land would be developed and integrated into the City of Concord. Similar to Alternative 1, the most intense development would occur near the North Concord/Martinez BART Station, where three- to six-story office and residential buildings would be located (see Figure 2-2). As mentioned above, the TOD Core, TOD Neighborhood, and Central Neighborhood development districts surrounding the BART station are somewhat expanded in Alternative 2. Approximately 2,825 acres along the eastern side of the former NWS Concord would be managed as conservation open space.

As with Alternative 1, Alternative 2 would impact the existing land use conditions within the boundaries of the former NWS Concord. These impacts are similar to those of Alternative 1 and would include significant changes to the existing built environment, including the introduction of a densely populated, mixed-use, TOD district with commercial, recreation, and open-space land uses. Implementation of

Alternative 2 would also result in open public access to the formerly secure and restricted military property; however, altering the existing land use conditions and providing access to previously inaccessible open space would be considered an overall beneficial impact. Therefore, the proposed action would result in significant beneficial impacts on onsite land use under Alternative 2.

4.2.2.2 Regional Land Use

Section 3.2 and 4.2.1.2 above provide an overview of land use in the City of Concord, City of Pittsburg, and Contra Costa County in the vicinity of the former NWS Concord. As discussed in Section 4.3, Socioeconomics and Environmental Justice, development of 15,872 housing units under Alternative 2 is not anticipated to negatively impact the local housing market, primarily because of the expected increase of population in the region, the limited supply of vacant housing currently available, and the length of the build-out period (25 years), which will allow the 15,872 proposed housing units to be more gradually absorbed into the market. The total area of commercial uses would be the same for Alternative 2 as Alternative 1; therefore, as described in greater detail in Section 4.2.1.2 for Alternative 1, the accessibility of the City of Concord to the MSA and the region's rapid growth rate as a whole would assist in the absorption of the additional commercial/retail space. As with Alternative 1, Alternative 2 is not anticipated to negatively impact the region's housing and commercial markets, and it is also not anticipated to negatively impact land uses as they are currently planned in the City of Concord, City of Pittsburg, and Contra Costa County in the vicinity of the former NWS Concord.

As described in greater detail in Section 4.2.1.2 for Alternative 1, reuse of the former NWS Concord site could have the indirect beneficial effect of relieving development pressure on areas that might possess sensitive resources, such as prime and unique farmland in eastern Contra Costa County, as future demands for housing and commercial space could be met by development of the installation. This is also true for the development of the site under Alternative 2. Impacts on regional land use would not be significant under Alternative 2.

4.2.2.3 Adjacent Land Use

Similar to Alternative 1, proposed land uses along the periphery of the former installation property would be compatible with existing land uses adjacent to the installation on the eastern and southern boundaries. The proposed land uses in Alternative 2 are the same as Alternative 1 in these locations (see Section 4.2.1.3 for a full description of Alternative 1 adjacent land use compatibility). The following description provides a discussion of land use compatibility for properties adjacent to the northern and western boundaries of the former NWS Concord, where the Alternative 2 land use pattern differs in these locations from Alternative 1.

North

As described in greater detail in Section 4.2.1.3 for Alternative 1, existing land uses north of the installation include office, light industrial, recreational, agricultural, and military designations. The Campus district would be located in the area occupied by the First Responder Training Center district in Alternative 1 and would be adjacent to the Diablo Creek Golf Course. The Campus district would be a campus environment that could accommodate a range of uses such as educational, research and development, cultural, and health care, and may include a university. Based on the range of uses that would be part of the campus environment and the recreational activities that would occur at the golf course, the proposed Campus district and the Diablo Creek Golf Course would be compatible with the existing office, industrial, recreational, agricultural, and military land uses located north and northwest of the site.

West

As described in greater detail in Section 4.2.1.3 for Alternative 1, existing land uses along the western boundary of the installation are primarily low-density residential, with a mix of education and parks and recreation land uses interspersed throughout. The housing density of the Village Neighborhood districts that would be developed as part of Alternative 2 would be similar to Alternative 1 and would gradually decrease at the edge of the site to provide a gentle transition to adjacent neighborhoods. In addition, greenways and citywide parks would provide a buffer between existing neighborhoods and Alternative 2 proposed land uses.

Existing land uses around and near the North Concord/Martinez BART Station include four moderate-density residential neighborhoods known as Victory Village, Quinault Village, Sun Terrace, and Holbrook. The proposed Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core development districts would be located adjacent to these existing neighborhoods. A comprehensive description of existing and proposed adjacent land uses is provided in Section 4.2.1.3 for Alternative 1. Alternative 2 differs from Alternative 1 in that the North Concord TOD Core, North Concord TOD Neighborhood, and Central Neighborhood development districts surrounding the BART station are somewhat expanded in Alternative 2, and there is an increase in the number of residential units, which could result in building heights that are in the upper range of what is described in Section 4.2.1.3 for Alternative 1. Similar to Alternative 1, the intensity and density of development would progressively decrease toward the installation boundaries, where building height and density would be reduced. The Neighborhood Frame greenway would provide a sensitive transition between the North Concord TOD Core, North Concord TOD Neighborhood, Central Neighborhood, and the Holbrook and Sun Terrace neighborhoods. In addition, the area occupied in Alternative 1 with the Village Neighborhood district south of the proposed Los Medanos Boulevard and west of Willow Pass Road and a portion of one of the two Central Neighborhood districts would be developed as an additional citywide park under Alternative 2. This citywide park would also provide a sensitive transition between the Central Neighborhood and the Holbrook and Victory Village neighborhoods.

Therefore, similar to Alternative 1, proposed land uses in the Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core development districts would be compatible with existing land uses in the surrounding neighborhoods. Compared to Alternative 1, the citywide park in Alternative 2 also provides an additional buffer between existing land uses and new development. Therefore, the implementation of Alternative 2 is compatible with the existing land uses west of the former NWS Concord.

The proposed action would be compatible with adjacent land uses; therefore, implementation of Alternative 2 would not result in significant impacts.

4.2.2.4 Consistency with Land Use Plans and Zoning

Compared to Alternative 1, Alternative 2 has a similar development program and the same sitewide development principles and standards as Alternative 1. Therefore, the overall development approach of Alternative 2 is similarly consistent with applicable principles, policies, goals, and strategies outlined in regional and local plans (see Section 4.2.1.4 for a detailed description of Alternative 1 land use plan consistency). While the overall development approach is consistent with regional and local plans, it should be noted that the total number of dwelling units proposed in Alternative 2 would exceed the maximum planning-area-wide total (see Table 4.2-1, Summary Comparison of Proposed Alternatives) and require an amendment to the City of Concord's General Plan. However, as the Alternative remains consistent with the applicable principles, policies, goals and strategies of the city's Area Plan, implementation of Alternative 2 would not result in significant impacts

4.2.2.5 Summary

While Alternative 2 represents a modified land use pattern and increased residential development on the site of the former NWS Concord property, the overall development approach is similar to Alternative 1. The same site-wide development principles and standards are also applied to Alternative 2. Mitigation measures that are planned by the City of Concord are assumed to also apply to Alternative 2. However, an amendment to the City of Concord's General Plan would be required because Alternative 2 would exceed the maximum planning-area-wide total. Therefore, implementation of Alternative 2 would result in a moderate adverse impact on land use; however, the impacts would not be considered significant.

4.2.3 No Action Alternative

Under the No Action Alternative, the former NWS Concord would be retained by the U.S. government in caretaker status, and reuse of the installation would not occur. The No Action Alternative would be compatible with adjacent land uses; however, it would be inconsistent with the City of Concord General Plan, which encourages the development of the installation into a mixed-use TOD area. The No Action Alternative would also not fulfill the applicable goals and policies of the various plans prepared by BART, ABAG, the Bay Area Joint Policy Committee, Contra Costa County, the City of Concord, and the City of Pittsburg. Therefore, implementation of the No Action Alternative would result in a significant adverse impact on land use.

4.3 Socioeconomics and Environmental Justice

This section provides a discussion of the potential direct and indirect impacts on socioeconomic conditions in the City of Concord and, where applicable, Contra Costa County and the MSA resulting from disposal and reuse of the former NWS Concord under Alternative 1, Alternative 2, and the No Action Alternative. Socioeconomic conditions evaluated include: economy, employment, and income; population; housing and commercial property; and taxes and revenues. In addition, this section analyzes the potential for disproportionate impacts from the reuse of NWS Concord on low-income populations, minority populations, and/or children, consistent with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and EO 13045, Environmental Health Risks and Safety Risks to Children.

4.3.1 Alternative 1

4.3.1.1 Economy, Employment, and Income

Implementation of Alternative 1 would have significant beneficial impacts on the local and regional economies, both immediately when construction begins and in the long term once the plan has been implemented. The beneficial economic impacts associated with the construction expenditures would occur during the 25-year build-out period. Once construction is completed at the end of the build-out period, these impacts would cease. In contrast, the beneficial economic impacts associated with implementation of the plan would continue long after the construction is finished.

Total construction expenditures are estimated to be approximately $6.28 billion (expressed in 2013 dollars) for the full build-out under Alternative 1. Approximately $1.88 billion of the total construction expenditures would be associated with horizontal construction, including general site costs (i.e., demolition of existing structures; grading; construction of roadways and transit facilities; bus rapid transit; storm drainage; and provision of potable water, gas, electricity, telecommunications, sewer, and fire protection); and tract costs (i.e., the costs to provide infrastructure for each parcel of land as it develops). The remaining $4.4 billion would be associated with the vertical construction, which includes the costs to construct the residential and non-residential development (Mathison 2013).

These construction expenditures would increase output, earnings, and employment in the City of Concord, Contra Costa County, and the MSA as a whole and generate significant beneficial direct, indirect, and induced economic impacts. Beneficial direct economic impacts would occur when local workers and firms are hired to complete the implementation of Alternative 1. Beneficial indirect economic impacts would occur when local suppliers provide materials for the construction and thus increase their sales and revenues. Beneficial induced economic impacts would occur when the additional workers spend a portion of their income in the regional economy, thereby increasing the output, earnings, and employment at other local businesses.

In an effort to quantify the direct, indirect, and induced impacts on Contra Costa County associated with the construction of Alternative 1, an economic model developed by the U.S. Bureau of Economic Analysis, known as the Regional Input-Output Modeling System (RIMS II), was utilized. Using Type II-change in final demand multipliers from the RIMS II model, the estimated $6.28 billion in construction expenditures is expected to support approximately 18,933 total (direct, indirect, and induced) jobs, increase total regional output by $4.2 billion, and generate $992 million of total employee earnings in Contra Costa County (see Table 4.3-1).

For the purposes of analysis, total construction expenditures have been analyzed as a lump sum that would be spent all at one time. However, in actuality, construction is likely to be spread over the entire 25-year timeframe. If construction expenditures were evenly divided through the 25-year period, the annual economic impacts of the construction expenditures under Alternative 1 would be an increase of $167 million in the county's output, an addition of 757 jobs, and an increase of $40 million in employee earnings (see Table 4.3-1). The number of jobs created from construction assumes that a new employee would be hired for each construction project. In reality, construction workers may complete one construction project and then be hired for a second project. The second project would not create new construction jobs but instead continue to utilize already hired personnel.

Table 4.3-1 Summary of Estimated Total Impacts (Direct, Indirect, and Induced) in Contra Costa County from Construction Expenditures under Alternative 1 [1,2]

	Total Change	Annual Change[3]
Total Construction Expenditures[4]	$6,280,000,000	$251,000,000
Output	$4,186,000,000	$167,000,000
Employee Earnings	$992,000,000	$40,000,000
Employment (in jobs) [4]	18,933	757

Sources: U.S. Bureau of Economic Analysis 2017.

1 All figures are expressed in constant 2013 dollars.

2 Assumes 40 percent of total construction expenditures are made directly to companies and individuals located in Contra Costa County.

3 Assumes that the construction expenditures would be spread evenly over a 25-year timeframe.

4 Construction costs estimates and the number of employees needed to operate/maintain the Conservation Open Space were not included in the Area Plan or this analysis. The size of the expenditures and the number of workers employed in the Conservation Open Space are minor relative to the total construction costs and the total number of jobs expected to be created during the operations phase.

As stated in the Area Plan, the City of Concord has set a "good faith goal" that 40 percent of the total workforce should be local, with priority given to firms/workers from the City of Concord. If firms/workers are not available in the city, then construction would be awarded to local firms/workers within Contra Costa County (City of Concord January 2012b). The figures shown on Table 4.3-2 assume that the city meets this "good faith goal" and that 40 percent of the total construction expenditures would be spent within Contra Costa County.

Table 4.3-2 Total Direct Employment at Full Build-Out by Development District[1] under Alternative 1

Development District[1]	Land Uses[2]	Planned Commercial Square Footage (in 1,000s)	Average Employees per 1,000 square feet	Total Direct Employment at Full Build-Out
North Concord TOD Core	Commercial Office (Class A)	2,550	3.26	8,313
	Commercial Retail (Town Center)	50	1.50	75
	Commercial Hotel (Mid-Rise)	400	0.64	256
Subtotal North Concord TOD Core		**3,000**	**N/A**	**8,644**
North Concord TOD Neighborhoods	Commercial Retail (Town Center)	150	1.50	225
Subtotal North Concord TOD Neighborhoods		**150**	**N/A**	**225**
Central Neighborhoods	Commercial Retail Central Neighborhoods	100	1.50	150
Subtotal Central Neighborhoods		**100**	**N/A**	**150**
Village Centers	Commercial Retail (Neighborhood and Mixed-Use)	350	1.50	525
Subtotal Village Centers		**350**	**N/A**	**525**
Commercial Flex	Commercial Office (Office Park/R&D)	730	3.26	2,380
	Commercial Retail (Regional Retail)	850	1.50	1,275
	Commercial Hotel (Business/Ltd Hotel)	120	0.64	77
Subtotal Commercial Flex		**1,700**	**N/A**	**3,732**
Campus	Commercial Office (Campus Cluster)	800	0.96	768
Subtotal Campus		**800**	**N/A**	**768**
Grand Total		**6,100**	**N/A**	**14,044**

Source: Institute for Public Administration 2009.

[1] This table only includes development districts in which commercial property is planned; therefore, the Village Neighborhoods development district, the First Responder Center, the Neighborhood Parks, Greenways, and Citywide Parks districts, and the Conservation and Open Space District are not included on this table.

The beneficial economic impacts associated with the construction expenditures would continue over the full 25-year build-out period. Once construction is complete, and the expenditures leave the regional economy through such outlays as savings, taxes, or purchases of goods and services from outside the region, these beneficial economic effects would no longer occur.

In contrast, the beneficial economic impacts that would occur as a result of implementation of Alternative 1 would have a long-term impact on the economies of the City of Concord, Contra Costa County, and the MSA and would continue beyond the 25-year build-out timeframe. Assuming that the full build-out potential is met, that 6.1 million square feet of additional commercial space is constructed, and that the additional property would be used by business enterprises new to the county, the reuse under Alternative

1 would directly generate up to 14,044 new jobs in Contra Costa County. The estimated number of new jobs was calculated using standard demographic multipliers collected by the Institute for Public Administration at the University of Delaware (Institute for Public Administration 2009), which show the relationship between the average number of employees by area of work space for different nonresidential uses. These demographic multipliers were then applied to the estimated square footage of the type of development expected to occur under Alternative 1 to project the total direct employment at full build-out.

Table 4.3-2 shows estimates of the direct employment expected to be generated by use of the planned commercial buildings in each development district. The Village Neighborhood development district, which does not include plans for any commercial buildings; the First Responder Training Center; and the parks and open space/conservation areas, which are not expected to generate any additional employment, are not included on the table. As shown on the table, commercial office space typically supports 3.26 workers per 1,000 square feet of space, retail space typically supports 1.50 workers per 1,000 square feet of space, hotel and lodging facilities on average support 0.64 worker per 1,000 square feet of space, while educational/research and development facilities typically support 0.96 worker per 1,000 square feet of space. Utilizing these nonresidential demographic multipliers, full implementation of Alternative 1 would generate approximately 10,693 office jobs; 2,250 retail jobs; 333 jobs in the lodging industry; and 768 educational/research and development jobs (see Table 4.3-2).

In addition to the direct jobs expected to be generated by the proposed reuse under Alternative 1, indirect and induced employment impacts are expected to occur as the increased employment and business activity at the former NWS Concord stimulates the regional economy. As the tenants in the newly constructed commercial buildings begin operations, they will purchase goods and services from local suppliers. Additionally, the new commercial workers would spend a portion of their new income in the local economy, thereby increasing the overall demand for goods and services in the area. In response, merchants and suppliers may increase employment at their operations and/or purchase more goods and services from their providers. These providers may, in turn, increase employment in their establishments and/or spend a portion of their income in the region, thus "multiplying" the positive economic impacts of the original increase in spending. These "multiplier" effects would continue until all of the original funds have left the local economy through either taxes, savings, or purchases from outside the area.

As shown on Table 4.3-3, an additional 12,493 indirect and induced jobs are expected to be generated by implementation of Alternative 1. In total, 26,537 direct, indirect, and induced jobs are expected to be created under this alternative. The indirect and induced job estimates were developed using the U.S. Bureau of Economic Analysis' modeling system RIMS II (U.S. Bureau of Economic Analysis 2017).

Table 4.3-3 Total Direct, Indirect, and Induced Employment Impacts of Alternative 1 by Development District at Full Build-Out

Development District	Land Uses	Direct Employment (number of jobs)	Employment Multiplier[1]	Indirect and Induced Employment (number of jobs)	Total Direct, Indirect, and Induced Employment (number of jobs)
North Concord TOD Core	Commercial Office (Class A)	8,313	2.0558	8,777	17,090
	Commercial Retail (Town Center)	75	1.3185	24	99
	Commercial Hotel (Mid-Rise)	256	1.5064	130	386
Subtotal North Concord TOD Core		**8,644**	**N/A**	**8,931**	**17,575**

Table 4.3-3 Total Direct, Indirect, and Induced Employment Impacts of Alternative 1 by Development District at Full Build-Out

Development District	Land Uses	Direct Employment (number of jobs)	Employment Multiplier[1]	Indirect and Induced Employment (number of jobs)	Total Direct, Indirect, and Induced Employment (number of jobs)
North Concord TOD Neighborhoods	Commercial Retail (Town Center)	225	1.3185	72	297
Subtotal North Concord TOD Neighborhoods		**225**	**N/A**	**72**	**297**
Central Neighborhoods	Commercial Retail Central Neighborhoods	150	1.3185	48	198
Subtotal Central Neighborhoods		**150**	**N/A**	**48**	**198**
Village Centers	Commercial Retail (Neighborhood and Mixed-Use)	525	1.3185	167	692
Subtotal Village Centers		**525**	**N/A**	**167**	**692**
Commercial Flex	Commercial Office (Office Park/R&D)	2,380	2.0558	2,513	4,893
	Commercial Retail (Regional Retail)	1,275	1.3185	406	1,681
	Commercial Hotel (Business/Ltd Hotel)	77	1.3185	39	116
Subtotal Commercial Flex		**3,732**	**N/A**	**2,958**	**6,690**
Campus	Commercial Office (Campus Cluster)	768	1.4123	317	1,085
Subtotal Campus		**768**	**N/A**	**317**	**1,085**
Grand Total[2]		**14,044**	**N/A**	**12,493**	**26,537**

Source: U.S Bureau of Economic Analysis 2017
Note: Totals may not add up due to rounding.

[1] 2007/2015 Type II direct effect employment multipliers for Contra Costa County for the Professional, Scientific, and Technical Services Sector; the Retail Trade Sector; the Accommodations Sector; and the Educational Sector from the U.S. Bureau of Economic Analysis' RIMS II model were utilized to determine the indirect and induced employment impacts.

[2] It has been assumed for modeling purposes that no additional job growth would result from the use of land set aside for the first responder center or from the use of land set aside for neighborhood parks, greenways, or citywide parks or from open space/conservation areas.

Using data from the U.S. Bureau of Labor Statistics on annual mean wage-rates by industry, it is estimated that at full build-out, implementation of Alternative 1 would directly generate approximately $950 million in employee earnings each year (see Table 4.3-4). As with direct employment, this increase in economic activity would stimulate the local economy as this additional income is cycled through it. Table 4.3-4 provides estimates of the direct, indirect, and induced impacts on employee earnings resulting from implementation of Alternative 1 at full build-out. As shown on the table, the direct increase of $950 million is anticipated to generate approximately $589 million in indirect and induced employee earnings each year, for a total annual increase of $1.5 billion in employee earnings as a result of implementation of Alternative 1 (see Table 4.3-4).

Table 4.3-4 Annual Direct, Indirect, and Induced Employee Earnings Impacts of Alternative 1 by Development District at Full Build-Out

Development District	Land Uses[2]	Direct Annual Employee Earnings (in $ millions)	Direct Effect Earnings Multiplier[1]	Annual Indirect and Induced Employee Earnings (in $ millions)	Total Direct, Indirect, and Induced Employee Earnings (in $ millions)
North Concord TOD Core	Commercial Office (Class A)	$644.8	1.6238	$402.3	$1,047.1
	Commercial Retail (Town Center)	$2.3	1.6270	$1.5	$3.8
	Commercial Hotel (Mid-Rise)	$7.7	1.6542	$5.0	$12.7
North Concord TOD Neighborhoods	Commercial Retail (Town Center)	$7.0	1.6270	$4.4	$11.4
Central Neighborhoods	Commercial Retail Central Neighborhoods	$4.7	1.6270	$2.9	$7.6
Village Centers	Commercial Retail (Neighborhood and Mixed-Use)	$16.4	1.6270	$10.3	$26.7
Commercial Flex	Commercial Office (Office Park/R&D)	$184.6	1.6238	$115.2	$299.8
	Commercial Retail (Regional Retail)	$39.9	1.6270	$25.0	$64.9
	Commercial Hotel (Business/Ltd Hotel)	$2.3	1.6542	$1.5	$3.8
Campus	Commercial Office (Campus Cluster)	$40.2	1.5158	$20.7	$61.0
Grand Total[2]		**$950.0**	**N/A**	**$588.8**	**$1,538.8**

Sources: U.S. Bureau of Economic Analysis 2017; U.S Bureau of Labor Statistics 2016a-d.
Note: Totals may not add due to rounding.

1 2007/2015 Type II direct effect earnings multipliers for Contra Costa County for the Professional, Scientific, and Technical Services Sector; the Retail Trade Sector; the Accommodations Sector; and the Educational Sector from the U.S. Bureau of Economic Analysis' RIMS II model were utilized to determine the indirect and induced employee earnings impacts.

2 It has been assumed for modeling purposes that no additional job growth would result from the use of land set aside for the First Responder Center or from the use of land set aside for neighborhood parks, greenways, or citywide parks or from open space/conservation areas.

Labor Force Availability

While implementation of Alternative 1 is anticipated to generate a significant beneficial increase in economic activity and create a significant amount of new employment, it is not expected to cause significant adverse impacts on the local and regional labor market by creating labor shortages. Sufficient unemployed and underemployed workers exist in the area to accommodate much of the increased demand for workers anticipated by implementation of Alternative 1. In 2015, approximately 27,497 persons were unemployed in Contra Costa County, 3,575 of whom were residents of the City of Concord (U.S. Bureau of Labor Statistics 2017). As shown in Table 4.3-1, the proposed construction of Alternative 1 is expected to generate approximately 757 direct, indirect, and induced jobs in Contra Costa County each year,

assuming construction takes place at an even pace over a 25-year timeframe. Given the high level of unemployment in the area, the addition of 757 jobs from construction is not expected to have an adverse impact on the local labor market.

In addition, approximately 26,537 direct, indirect, and induced jobs are expected to be created once the proposed commercial and retail space in Alternative 1 is developed and utilized (see Table 4.3-3). However, these jobs are also expected to be added to the local economy over time. If the proposed commercial and retail development occurs evenly over the 25-year build-out period, then approximately 1,060 new jobs would be added each year. It is likely that many of these new positions would be filled by existing unemployed or underemployed residents of the city and county. Additionally, the commercial and retail developments are expected to be built in tandem with the residential units. The local population and, thus, the local labor force are expected to grow at a pace similar to that of the proposed commercial/retail development. Therefore, the jobs expected to be generated by the proposed commercial and retail developments are not anticipated to have an adverse impact on the local labor market because sufficient labor is expected to be available to fill the newly created jobs.

Therefore, the proposed action would result in significant beneficial impacts on the local economy, employment, and income.

4.3.1.2 Population

Implementation of the proposed reuse plan under Alternative 1 would have an impact on the population and demographic characteristics of the City of Concord. Proposed new residential construction within the development districts would likely result in an influx of new residents to the city by increasing the number of available housing units. The proposed construction of 12,200 residential units at the former installation is estimated to increase the population in the city by 31,462 residents (see Table 4.3-5). This figure was derived by assuming that each new housing unit would represent one additional household moving into the City of Concord from outside the city limits. Data from the U.S. Bureau of the Census's *2015 American Community Survey* on total population by type of housing and the number of housing units in a structure for the City of Concord were utilized to estimate the expected change in population. According to the U.S. Bureau of the Census, in 2015 an average of 2.884 persons lived in each single-family attached or detached housing unit in the City of Concord. Additionally, in 2015 an average of 2.407 persons lived in each multi-unit housing unit in the city (U.S. Census Bureau n.d a-c). Assuming that the new residents to the city would have similar demographic characteristics as the existing population, these current household sizes by type of housing unit were then applied to the expected mix of residential units proposed under Alternative 1 (see Table 4.3-5).

Table 4.3-5 Summary of Estimated Population Impacts at Full Build-Out of Alternative 1

District	Number of Units	Estimated Population Impact
North Concord TOD Core	700	1,685
North Concord TOD Neighborhoods	2,200	5,294
Central Neighborhoods	2,600	6,381
Village Centers	500	1,203
Village Neighborhoods	6,200	16,899
Total	**12,200**	**31,462**

An increase of 31,462 residents would equate to 24.9 percent of the city's 2015 estimated total population. While construction and occupation of the proposed 12,200 housing units at the former NWS Concord would lead to a substantial increase in population in the City of Concord and Contra Costa County as a whole, it would not be the underlying cause of this population growth. Between 2010 and

2035, ABAG projects that more than 1.7 million additional people will reside in the Bay Area. An additional 960,000 jobs are expected to be created in this time period (ABAG n.d.).

Due to this projected regional population growth and the corresponding development pressure that would occur, population in the City of Concord and Contra Costa County is likely to experience a substantial increase by 2035, with or without reuse of the former NWS Concord. If no residential development were to occur at the former NWS Concord property, it is likely that this development would occur elsewhere within the city or county. Therefore, while implementation of Alternative 1 would result in the construction of 12,200 new housing units and the relocation of an estimated 31,462 residents to the former NWS Concord property, Alternative 1 implementation, by itself, is not expected to cause a significant adverse population impact on the city.

Likewise, the increased employment opportunities associated with implementing Alternative 1 described in Section 4.3.1.1 would have the potential to increase the desirability of the City of Concord as a place of residence; however, these impacts are not expected to be significant. Given the phased approach planned for construction of the residential and commercial properties and the fact that these properties would be developed in tandem; the accessibility of the new development to the greater San Francisco Bay region; and the large labor force in the region, most of these additional jobs are expected to be filled by existing residents in the region.

Therefore, the increased employment opportunities are not expected generate much additional in-migration to the City of Concord and the proposed action would have no significant impacts on the local population.

4.3.1.3 Housing and Commercial Property

The implementation of Alternative 1 provides for the construction of 12,200 new residential units in the City of Concord, which would result in a minor beneficial impact. Table 4.3-6 provides a breakdown of the type and number of proposed units by development district. As shown on the table, this alternative would include 1,100 high-density, multi-unit housing units; 1,000 moderate- to high-density, multi-unit housing units; 4,700 moderate-density townhomes; 1,000 mixed-use, multi-unit housing units; 3,300 moderate- to low-density, single-family attached units; and 1,100 low-density, single-family detached units (see Table 4.3-6). These 12,200 new units would represent an increase of 25.6 percent over the city's 2015 total housing stock.

Table 4.3-6 Housing and Commercial Property by Development District and Housing Unit Type under Full Build-Out of Alternative 1

Development District	Land Uses	Approximate Housing Units	Approximate Commercial Square Footage
North Concord TOD Core	Commercial Office (Class A)	--	2,550,000
	Commercial Retail (Town Center)	--	50,000
	Commercial Hotel (Mid-Rise)	--	400,000
	Residential - High-Density Multi-Unit Housing	700	--
	Subtotal	**700**	**3,000,000**

Table 4.3-6 Housing and Commercial Property by Development District and Housing Unit Type under Full Build-Out of Alternative 1

Development District	Land Uses	Approximate Housing Units	Approximate Commercial Square Footage
North Concord TOD Neighborhoods	Residential – Moderate-Density Townhomes	490	--
	Residential – Moderate- to High-Density Multi-Unit Housing	860	--
	Residential – Mixed-Use Multi-Unit Housing	450	--
	Residential – High-Density Multi-Unit Housing	400	--
	Commercial Retail (Town Center)	--	150,000
	Subtotal	**2,200**	**150,000**
Central Neighborhoods	Residential – Moderate- to Low-Density Single-Family Attached Housing	260	--
	Residential – Moderate-Density Townhomes	1,950	--
	Residential – Moderate- to High-Density Multi-Unit Housing	140	--
	Residential – Mixed-Use Multi-Unit Housing	250	--
	Commercial Retail (Town Center)	--	100,000
	Subtotal	**2,600**	**100,000**
Village Centers	Commercial Retail (Neighborhood and Mixed-Use)	--	350,000
	Residential – Moderate-Density Townhomes	200	--
	Residential – Mixed-Use Multi-Unit Housing	300	--
	Subtotal	**500**	**350,000**
Village Neighborhoods	Residential –Low-Density Single-Family Detached Housing	1,100	--
	Residential – Moderate- to Low-Density Single-Family Attached Housing	3,040	--
	Residential – Moderate-Density Townhomes	2,060	--
	Subtotal	**6,200**	**--**
Commercial Flex	Commercial Office (Office Park/R&D)	--	730,000
	Commercial Retail (Regional Retail)	--	850,000
	Commercial Hotel (Business/Ltd Hotel)	--	120,000
	Subtotal	--	1,700,000
Campus	Commercial Office (Campus Cluster)	--	800,000
	Subtotal	**--**	**800,000**
Total		**12,200**	**6,100,000**

Source: City of Concord January 2012b

Despite this large growth in the city's total housing stock that would occur as a result of implementation of Alternative 1, impacts to the residential housing market are expected to be minor. As described previously in Sections 3.3 and 4.3.1.2, the City of Concord, Contra Costa County, and the entire MSA are expected to experience significant population growth over the next 25 years. Total population is expected to grow to 167,500 in the city; 1.3 million in the county, and 5.4 million in the MSA by 2035 (see Table 3.2-7).

In addition, the current demand for housing in the city and region outstrips the available supply. As described in Section 3.3, homeowner vacancy rates in 2015 were only 1.0 percent in the City of Concord and only 0.9 percent in Contra Costa County and in the MSA as a whole. Likewise, rental vacancy rates

were very low. In 2015, the rental vacancy rate was 3.0 percent in the City of Concord, 3.5 percent in Contra Costa County, and 2.9 percent in the MSA as a whole (see Table 3.2-9).

Finally, the geographic location of the City of Concord and its integration with the greater San Francisco Bay area would ensure that the demand for housing would remain strong. As a result of the expected increase in population that will lead to an increase in demand for housing in the region and the limited supply of housing currently available, the construction of the 12,200 proposed housing units over a 25-year period is not expected to significantly affect the residential housing market. The new units, which would equate to approximately 490 units constructed each year for 25 years, would likely be easily absorbed into the existing housing market without causing any adverse impacts on existing home prices and without causing an excess supply of available units.

As part of the federal land conveyance process defined by the Federal Property and Administrative Services Act of 1949 and amended by the BRAC Act of 1990, a Homeless Assistance Plan, which includes legally binding agreements with the U.S. Department of Housing and Urban Development (HUD), was developed and agreed upon by the City of Concord. This Homeless Assistance Plan has been incorporated into the planned reuse of the former NWS Concord. The Homeless Assistance Plan requires that no fewer than five parcels of land containing approximately 26 acres (a minimum of 16 developable acres) be conveyed to the City of Concord by the Navy at no cost for the development of up to 260 but no fewer than 130 units of multi-family transitional housing units, a food bank, and an employment training center. The city, in turn, must transfer each of these parcels to homeless providers to provide housing and support for the homeless population and to the Food Bank of Contra Costa and Solano to construct a 120,000-square-foot food bank warehouse and an employment training center. The transitional units are to include an assortment of sizes reflective of the household/family sizes of homeless persons in the community. The specific location of these parcels has not yet been determined (City of Concord February 2012, City of Concord May 2012).

Also, Alternative 1 would ensure that at least 25 percent of the new total housing units (3,020 units) would be earmarked as affordable housing units for lower-income households. The remainder of the housing units constructed could be market-rate units. At least 30 percent of the total affordable housing units would be prioritized for low-income seniors, veterans, and teachers. These affordable housing units would be integrated throughout the development districts (City of Concord January 2012b).

Implementation of Alternative 1 would increase the amount of commercial property available in the City of Concord, resulting in a minor beneficial impact. Table 4.3-6 identifies the total commercial property proposed to be built under Alternative 1 under full build-out by development district. As shown on the table, at full build-out, the following additional space will be available for lease or purchase in the City of Concord: 1.5 million square feet of retail space; 800,000 square feet of Campus land use; 520,000 square feet of hotel space; and 3.28 million square feet of commercial office space. As of March 2017, approximately 1.2 million square feet of existing office space and 604,000 square feet of existing retail space was available in the City of Concord (City of Concord 2017).

The additional supply of retail and office space in the City of Concord that would result from full build-out of Alternative 1 could have a slight impact on the commercial property market by creating a downward pressure on prices for existing space. However, as mentioned previously, the accessibility of the City of Concord to the MSA and the region's rapid growth rate as a whole would assist in the absorption of the additional commercial/retail space. The expected rapid growth would require the construction of additional commercial properties to service these new residents/employees. Additionally, new construction of retail and office space is not likely to occur until there is a demand for it. As described in Section 4.3.1.1, the proposed commercial/retail space is expected to be built in tandem with

the residential development. Therefore, a larger population base would be in place to support this additional commercial/retail development.

Therefore, the proposed action is not expected to have a significant impact on the housing and commercial property market under Alternative 1.

4.3.1.4 Taxes and Revenues

Implementation of the proposed reuse plan under Alternative 1 would increase tax revenue to the City of Concord, Contra Costa County, and other tax-levying authorities in the area. Construction of residential units and commercial space would increase the volume of taxable real estate in the City of Concord. In addition, the projected increase in population would increase sales tax revenue in the city, as new local residents purchase goods and supplies. Table 4.3-7 shows the estimated increase in the property tax receipts in the City of Concord upon full build-out of Alternative 1 by property tax type. Table 4.3-8 shows the estimated increase in sales tax receipts in the City of Concord upon full build-out. Property taxes from new development were estimated by multiplying the new construction's assessed property values by the applicable property tax rates. Because new construction within the State of California is assessed at its full market value (California State Board of Equalization 2013) and since the value of new construction is estimated at $6.28 billion for full build-out under Alternative 1, it can be assumed that the assessed value of these new properties will be at least $6.28 billion. Because federal property is exempt from state and local taxes, any tax collected on private property at the former NWS Concord installation would represent a net gain for the City of Concord. Reuse of the former NWS Concord installation property is estimated to bring an additional $70 million in revenue annually upon full build-out of Alternative 1.

Table 4.3-7 Estimated Annual Property Tax Revenue by Property Tax Type upon Full Build-Out of Alternative 1

Property Tax Type	Property Tax Rate (millage)	Projected Revenue Increase
City and County Direct Rate	1.0000	$ 62,800,000
Bay Area Rapid Transit Rate	0.0026	$ 163,280
East Bay Regional Park District Rate	0.0067	$ 420,760
Mount Diablo Unified School District & Community College	0.1032	$ 6,480,960
Total	**1.1125**	**$ 69,865,000**

Sales and use tax revenue for the City of Concord from full build-out of Alternative 1 was estimated by first determining the current per capita sales and use tax paid by city residents and then multiplying this current rate by the estimated population increase upon full build-out of Alternative 1. Table 4.3-8 shows the estimated change in sales and use tax revenue from implementation of Alternative 1. Reuse of the former NWS Concord installation property is estimated to increase the population of the City of Concord by 31,462 persons upon full build-out. Assuming sales and use tax receipts per resident remain constant, it is estimated that, on average, an additional $3.0 million of sales and use taxes would be generated in the City of Concord annually.

Table 4.3-8 Estimated Change in Sales and Use Tax upon Full Build-Out of Alternative 1

City of Concord	Amount
Sales and Use Tax Revenue (2016)	$12,135,000
Per Capita Sales and Use Tax Revenue	$96.11
Projected Population upon full build-out of Alternative 1	31,462
Estimated Change in Sales and Use Tax	$3,024,000

Therefore, the proposed action would have a significant beneficial impact on the tax-levying authorities in the area (e.g. City of Concord, Contra Costa County).

Summary

Implementation of Alternative 1 would have short-term and long-term beneficial impacts, some of which would be significant, on the economies of the City of Concord, Contra Costa County, and the MSA as a whole. Beneficial economic impacts would occur during the construction phase as well as the implementation phase of this alternative. Local economic output and local value added would increase, additional job opportunities would be generated, and employee earnings would expand. No adverse impacts are expected to occur to the local labor market because labor shortages are unlikely to occur. The local population in the City of Concord would expand by approximately 31,462 residents, and the city's housing stock would be increased by 12,200 units. Existing housing demand and prices for existing housing are not expected to be significantly impacted by implementation of Alternative 1. The commercial real estate market would experience an increase of 6.1 million square feet of commercial space. Some downward price pressure may occur as a result of this additional construction; however, the projected growth of the regional economy would adsorb much of this increased commercial space. Ad valorem property tax revenues would increase as previously tax-exempt property would become taxable private property. Finally, sales and use tax receipts would increase because the additional population would increase the amount of purchases made within the local economy.

4.3.1.5 Environmental Justice and Protection of Children

This analysis focuses on the potential for disposal and reuse of the former NWS Concord under Alternative 1 to result in disproportionately high and adverse effects on minority and low-income populations or to cause environmental health risks and safety risks that may disproportionately affect children (people younger than 18 years old). As described in Section 3.3.6, all of the census block groups surrounding the installation boundary contain minority populations and children, and two of the census tracts contain a higher percentage of population below the poverty level than the community of comparison. Therefore, for purposes of this analysis, environmental justice communities exist within the study area.

As discussed in Section 3.3.1, CEQ provides guidance on determining whether environmental effects are disproportionately high and adverse. The Federal Interagency Working Group on Environmental Justice and NEPA (March 2016) provided further guidance for determining whether the impacts on minority or low-income populations may be disproportionately high and adverse. Agencies should consider the following factors:

1. The significance of any direct, indirect, or cumulative impacts on minority and low-income populations in the affected environment for each alternative carried forward for detailed analysis in the NEPA document (as employed by NEPA). Agencies' approaches should not determine that a proposed action or alternative would not have a disproportionately high and adverse impact on minority and low-income populations solely because the potential impacts of the proposed action or alternative on the general population would be less than significant (as defined by NEPA).
2. The distribution of beneficial and adverse impacts between minority and low-income populations and the general population in the affected environment, as well as how adverse impacts are mitigated.
3. After considering all appropriate mitigation measures, balance any remaining adverse impacts with beneficial impacts of the project to the community, as appropriate. If an adverse impact on minority and low-income populations remains after accounting for all

appropriate mitigation measures and related project benefits, continue to consider whether the remaining adverse impact(s) is/are disproportionately high and adverse. In determining the balance between beneficial and adverse impacts, the beneficial impacts and mitigation should be related to the type and location of the adverse impact. Agencies should not balance adverse impacts that directly affect human health at levels of concern, especially those that exceed health criteria, with project benefits.

4. Situations in which minority and low-income populations receive an uneven distribution of benefits in the presence of adverse impacts (e.g., a smaller proportion of beneficial impacts accrue to minority and low income populations than to the general population) could indicate a potential disproportionately high and adverse impact.
5. The degree to which any of the following seven factors could amplify identified impacts. Factors that can potentially amplify an impact on minority and low-income populations in the affected environment include, but are not limited to, the following:
    a. Proximity and exposure to chemical and other adverse stressors, e.g., impacts commonly experienced by fenceline communities;
    b. Vulnerable populations, e.g., minority and low-income children, pregnant women, elderly, or groups with high asthma rates;
    c. Unique exposure pathways, e.g., subsistence fishing, hunting, or gathering in minority and low-income populations;
    d. Multiple or cumulative impacts, e.g., exposure to several sources of pollution or pollutants from single or multiple sources;
    e. Ability to participate in the decision-making process, e.g., lack of education or language barriers in minority and low-income populations;
    f. Physical infrastructure, e.g., inadequate housing, roads, or water supplies in communities;
    g. Non-chemical stressors, e.g., chronic stress related to environmental or socioeconomic impacts.

The Navy considered these factors and determined that implementation of Alternative 1 would not have disproportionately high or adverse health or environmental impacts on minority, Hispanic/Latino, or low-income populations as defined in EO 12898. Adverse impacts are projected to occur as detailed further in Chapter 4. Significant adverse impacts are projected to occur to air quality, and transportation, traffic and circulation. However, the adverse effects and the significant adverse effects on minority, Hispanic/Latino, or low-income populations are not expected to appreciably exceed those on the general population or other appropriate comparison group, and all adverse and significantly adverse effects will be mitigated as outlined in Chapter 4 and Chapter 7. Significant beneficial impacts are projected to occur to socioeconomics and public services, with the provision of new open space. These beneficial impacts would be distributed throughout the local area, and minority, Hispanic/Latino, and low-income populations would share in these beneficial impacts.

The Navy conducted public outreach during the public scoping period and public comment period on the Draft EIS, as discussed in Section 1.9. No environmental justice concerns were identified during these public outreach opportunities.

Implementation of Alternative 1 would not have disproportionately high or adverse health and safety impacts on populations aged less than 18 years because no significant unmitigated environmental, human

health, or safety impacts are expected to occur in the surrounding communities as a result of Alternative 1. The properties would be fenced during construction, and access would be permitted only to construction personnel. Removal and disposal of hazardous materials, including LBP and ACM, would comply with all applicable federal laws and regulations. Additionally, no unique environmental health or safety issues would impact children in the affected communities.

4.3.2 Alternative 2

4.3.2.1 Economy, Employment, and Income

Implementation of Alternative 2 would have similar beneficial impacts on the local and regional economy as described for Alternative 1. Output, employment, and earnings would increase as a result of the construction and implementation phases of Alternative 2. The construction costs would be slightly greater under Alternative 2 than under Alternative 1 because an additional 3,673 housing units would be built under this alternative. An identical amount of commercial space is proposed under each alternative. The additional construction costs would slightly increase construction employment and earnings over Alternative 1 levels and would, therefore, result in slightly greater beneficial positive indirect and induced impacts on the local and regional economy. The expected economic impacts associated with the implementation phase of Alternative 2 would be identical to those described for Alternative 1. Similar to Alternative 1, implementation of Alternative 2 is not expected to affect labor force availability or cause labor shortages.

Therefore, under Alternative 2, the proposed action would have a significant beneficial impact on the local economy, employment, and income.

4.3.2.2 Population

Utilizing the same methodology discussed in Alternative 1, construction of the 15,873 housing units proposed under Alternative 2 is expected to increase the total population of the City of Concord by 40,309 residents, or 31.9 percent of the city's 2015 total population (Table 4.3-9).

Table 4.3-9 Summary of Estimated Population Impacts at Full Build-Out of Alternative 2

District	Number of Housing Units	Estimated Population Impact
North Concord TOD Core	4,000	9,626
North Concord TOD Neighborhoods	2,322	5,588
Central Neighborhoods	2,908	7,157
Village Centers	500	1,204
Village Neighborhoods	6,143	16,734
Total	**15,873**	**40,309**

However, as described in greater detail in Section 4.3.1.2 for Alternative 1, as a result of the projected regional population growth and the corresponding development pressure that would occur, the City of Concord and Contra Costa County would likely experience substantial population growth with or without reuse of the former NWS Concord property for housing.

Therefore, implementation of Alternative 2 by itself is not expected to cause a significant adverse population impact on the city.

4.3.2.3 Housing and Commercial Property

Implementation of Alternative 2 would provide for the construction of 15,873 new residential units in the City of Concord. Table 4.3-10 provides a breakdown of the type and number of these proposed units. These 15,873 new units would represent an increase of 33.3 percent over the City of Concord's 2015 total housing stock. The proposed commercial property constructed under Alternative 2 would be identical to that proposed for Alternative 1.

Table 4.3-10 Housing by Development District and Type under Full Build-Out of Alternative 2

Development District	Land Uses	Approximate Housing Units
North Concord TOD Core	Residential - High-Density Multi-Unit Housing	4,000
	Subtotal	**4,000**
North Concord TOD Neighborhoods	Residential – Moderate-Density Townhomes	0
	Residential – Moderate- to High-Density Multi-Unit Housing	100
	Residential – Mixed-Use Multi-Unit Housing	109
	Residential – High-Density Multi-Unit Housing	2,113
	Subtotal	**2,322**
Central Neighborhoods	Residential – Moderate- to Low-Density Single-Family Attached Housing	333
	Residential – Moderate-Density Townhomes	2,000
	Residential – Moderate- to High-Density Multi-Unit Housing	150
	Residential – Mixed-Use Multi-Unit Housing	425
	Subtotal	**2,908**
Village Centers	Residential – Moderate-Density Townhomes	100
	Residential – Mixed-Use Multi-Unit Housing	400
	Subtotal	**500**
Village Neighborhoods	Residential –Low-Density Single-Family Detached Housing	1,043
	Residential – Moderate- to Low-Density Single-Family Attached Housing	3,040
	Residential – Moderate-Density Townhomes	2,060
	Subtotal	**6,143**
Total		**15,873**

Impacts on the residential housing market from Alternative 2 would be the same as those described for Alternative 1 and are expected to be minor and beneficial. As described in detail in Section 4.3.1.3, the existing and projected demand for housing and the limited supply of housing units in the City of Concord and Contra Costa County would ensure that new housing would be absorbed into the residential housing market without causing any negative effects on existing home prices and without causing an excess supply of available units. Impacts on the commercial real estate market caused by implementation of Alternative 2 would be identical to those described for Alternative 1.

Therefore, the proposed action would not have a significant impact on the housing and commercial property market under Alternative 2.

4.3.2.4 Taxes and Revenues

Alternative 2 would have a similar fiscal impact as Alternative 1, though slightly more property tax receipts and sales tax receipts would be generated under Alternative 2. As described for Alternative 1, the construction at the former NWS Concord property under Alternative 2 would also increase the City of Concord's property tax base and thus the city's total property tax revenues. Since total construction costs

are expected to be slightly greater under Alternative 2, the total ad valorem property tax receipts are also expected to be slightly greater under this alternative than under Alternative 1. In addition, implementation of Alternative 2 is expected to increase total sales tax receipts in the city. Utilizing the same methodology described in Section 4.3.1.4, total sales and use tax receipts that would result from Alternative 2 are estimated to be approximately $3.9 million annually.

Therefore, Alternative 2 would have a significant beneficial impact on the tax-levying authorities in the area (e.g. City of Concord, Contra Costa County).

4.3.2.5 Environmental Justice and Protection of Children

Implementation of Alternative 2 would have similar impacts as Alternative 1 with no disproportionately high or adverse health and safety or environmental impacts on minority, low-income populations, or populations aged less than 18 years.

4.3.3 No Action Alternative

Under the No Action Alternative, no reuse plan would be implemented, and ownership of the property would be retained by the Navy. The former NWS Concord would not be developed and would remain in a caretaker status. No new economic activity would be generated, and no increased employment opportunities would occur. Regional population and the regional housing market would not be impacted, and there would not be any impact on the regional commercial property market. Local government tax receipts would not increase because the former NWS Concord would retain its current tax-exempt status. The property would remain fenced, and the Navy would maintain the buildings and fence line to prevent unauthorized access. The No Action Alternative would not have disproportionate or adverse human health and safety impacts or environmental impacts on environmental justice communities, or populations younger than 18 years old.

4.4 Air Quality

This section describes the potential impacts on air quality resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. Included in this section are discussions of the air pollutant emissions estimated to occur during construction and operation of the proposed land uses and the thresholds used by the BAAQMD to determine the significance of these emissions in affecting local and regional air quality and GHG levels.

The requirement to prepare a conformity applicability analysis or determination does not apply to a federal action if the action fits within one or more of the exemption categories at 40 CFR 93. The proposed federal action is exempt from the requirement for a conformity determination pursuant to 40 CFR 93.153(c)(2)(xiv) and 40 CFR 93.153(c)(2)(xix), which apply to transfers of ownership, interests, and titles in land, facilities, and real and personal property. Therefore, a conformity applicability analysis or determination is not required. A Record of Non-Applicability (RONA) of the CAA General Conformity Rule is included in Appendix G.

While the General Conformity Rule does not apply, Navy guidance states that analysis of a Navy action under NEPA must identify and evaluate any federal, state, or local requirements that apply (Navy July 2013). The BAAQMD is responsible for management of air quality in the SFBAAB and has developed the Clean Air Plan for the region (BAAQMD 2010). The BAAQMD has also developed thresholds for use by lead agencies in California to evaluate air quality impacts from projects and plans proposed in the SFBAAB under CEQA (BAAQMD 1999). The BAAQMD issued updated CEQA guidelines in 2011 with revised thresholds of significance for determining the significance of impacts from proposed projects. However, on March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted specific significance thresholds in the

updated CEQA guidelines. BAAQMD reissued guidelines in 2012 removing specific significance thresholds (BAAQMD 2012). BAAQMD has also advised agencies that they may continue to rely on the thresholds of significance in the 1999 CEQA guidelines and make determinations regarding the significance of an individual project's air quality impacts based on substantial evidence as presented in environmental assessment documentation (BAAQMD 2014).

While the BAAQMD's thresholds of significance from the BAAQMD 1999 CEQA guidelines are not specifically applicable to NEPA review, they are used in this analysis to assess the significance of impacts on air quality and the implementation of state and local air quality management from the disposal and reuse of the former NWS Concord. Where thresholds are not available, the Area Plan documentation of compliance with state and local requirements has been reviewed. This analysis examines whether the Area Plan (and Alternative 2) would be consistent with the BAAQMD's Clean Air Plan and, therefore, would not have a significant adverse effect on air quality because it would not interfere with the ability of the state to meet the federal air quality standards.

The following analysis presents the potential impacts on air quality as a result of population changes, changes in vehicle miles traveled (VMTs), criteria air pollutants, hazardous air pollutants, nuisance odors, and GHGs.

Sources of potential emissions associated with the proposed action fall into two categories: construction and operational. Temporary emissions from construction would start at the beginning of action on the project and would cease at the completion of full implementation. Air emissions would result from demolition, material removal, site preparation, building and road construction, and worker commutes and material deliveries. Construction materials and equipment would be transported to and from the site by truck.

Operational emissions would occur after construction is completed on the early stages on the project and occupancy of the new facilities, buildings, and residential units occurs. It is anticipated that operational emissions would increase as more development occurs through the construction period. However, it is not possible to estimate the schedule and overlap of construction and operational activities at this time. Therefore, the total emission increases associated with the operation of all new facilities, buildings, and residential units as well as area sources and vehicle usage on roadways before and after full project implementation (build-out) have been evaluated.

As discussed in Chapter 1, Alternative 1 is consistent with the Area Plan, as adopted by the City of Concord in 2012 (Figure 2-1). Alternative 2 has a slightly smaller development footprint than the Area Plan but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development (Figure 2-2). The Area Plan is the result of an extensive reuse planning process performed by the City of Concord. During the planning effort that resulted in the development of the Area Plan, the city made a concerted effort at all stages of the planning and environmental analysis to design and refine the Area Plan to avoid or minimize the potential effects of the project on air quality and to reduce GHG emissions. This effort is evaluated and documented in Book 3 of the Area Plan, the Area Plan Climate Action Plan (Area Plan CAP).

As appropriate, assumptions and mitigations identified in the Area Plan CAP have been included in this evaluation for both Alternative 1 and Alternative 2. The objective of the Area Plan CAP is to reduce GHG emissions from the project's potential emission sources, including transportation, building and site energy use, water use, and waste disposal. Examples of the GHG-reduction principles and polices include pedestrian-oriented design, parking management, ride-sharing incentives, onsite renewable energy systems (e.g., solar panels), drought-tolerant landscaping, and maximizing recycling. Appendix C includes a discussion of the incorporation of mitigations to the extent feasible in this analysis.

The CalEEMod emissions model was used to estimate criteria air pollutant emissions and GHG emissions. In addition, the potential for localized air quality impacts at intersections has been modeled. The CALINE-4 emission model has been used to evaluate potential CO hot spots. See Appendix C for a summary of modeling assumptions and results.

4.4.1 Alternative 1

Alternative 1 is the disposal and reuse of surplus property at the former NWS Concord in a manner consistent with the Area Plan. Under Alternative 1, approximately 70 percent of the property would be maintained as conservation, parks, or recreational land uses, and 30 percent would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses. Development on the site would involve up to a maximum of 12,200 housing units and 6.1 million square feet of commercial space, developed as a series of mixed-use development districts, with a higher concentration of development at the north end, near SR 4 and the North Concord/Martinez BART Station.

4.4.1.1 Planning Thresholds

The BAAQMD uses two planning thresholds to determine the potential for air quality impacts to be significant: projected population and estimated VMTs. These are briefly discussed below for the build-out of Alternative 1.

The project would be inconsistent with the applicable clean air plan if it would "result in population growth that would exceed the values included in the current air quality portion of the applicable General Plan" (BAAQMD 1999). Population growth beyond that considered in the General Plan would not be considered in development of air quality controls and management, and could therefore conflict or obstruct implementation of the city's air quality plan.

During the preparation of the City of Concord's FEIR, the existing population (2006) was estimated to be 124,400, and the 2030 projected population without the project was estimated to be 142,200 (City of Concord 2010). The FEIR concluded that because the 2030 projected population for the City of Concord did not include the reuse of the former NWS Concord, that "prior to approving development at the site, the City of Concord [would] request updated population projections from ABAG and the BAAQMD, and the City [would] coordinate with these agencies to update the applicable clean air plans so that the projections of Concord's 2030 population are updated (increased) by the ABAG to reflect the size and scope of the [Area Plan]" (City of Concord 2010). The City of Concord adopted the Area Plan into the Concord 2030 General Plan, thereby revising the General Plan to incorporate the development program established for the Area Plan. The ABAG Projects and Priorities assessment (ABAG 2013) was updated in 2013, incorporating consideration of the development program as described in the Area Plan.

In this FEIS, the build-out of the Area Plan is estimated to support a population of 31,462 based on the number of housing units and the demographic multiplier discussed in Section 4.3. The latest estimate of population for the City of Concord from the U.S. Bureau of the Census's *2015 American Community Survey* is 126,268 (U.S. Census Bureau 2015b). The project would not be inconsistent with the applicable clean air plan because it would result in a final population (i.e., 157,730) that would be less than the value included in the current air quality portion of the ABAG Priorities Plan (i.e., 181,500). Table 4.4-1 provides the population projections for Alternative 1 as well as the population projections from the ABAG (ABAG 2013).

Table 4.4-1 Population Projections, Alternative 1

Plan/Alternative	Total Population (City of Concord) 2015	Projected Increase	Total Population (City of Concord) 2040
Association of Bay Area Governments Projections and Priorities 2013 (2013)	125,300	59,433	181,500
Alternative 1	126,268	31,462	157,730

BAAQMD CEQA guidelines also indicate that a project could be inconsistent with the applicable clean air plan if it would result in a rate of increase in VMTs that is higher than the rate of increase in population. The increase in VMTs above the increase in population could therefore conflict or obstruct implementation of the city's air quality plan.

The rate of change in VMTs relative to population under Alternative 1 is determined based on a comparison of the daily VMTs per capita for the 2013 baseline and the daily VMTs per capita estimated after full implementation. Baseline service population, which includes residents and workers, and baseline VMT data for the City of Concord is taken from the 2013 Area Plan. The CCTA Traffic Demand Model used in the transportation impact study estimated the change in daily VMTs from the project only after full implementation of Alternative 1 (see Appendix H) (Kittelson & Associates, Inc., 2016). Table 4.4-2 provides a summary of the baseline and final totals to provide a comparison of the daily VMTs per capita values for the City of Concord.

Table 4.4-2 Daily VMTs and Population Projections, Based on Transportation Analysis, Alternative 1

Alternative	Service Population	Daily VMTs	Daily VMTs per Capita
Baseline (2013)	185,300	4,499,149	24
Alternative 1	250,692	6,138,107	24

As shown, daily VMTs per capita is the same under Alternative 1 as the baseline, when using the data from the transportation study.

However, the transportation study conservatively estimated VMTs for implementation of Alternative 1. Many of the mitigation strategies defined in the Area Plan were not considered in the transportation study. CalEEMod was used to quantify the impacts of transportation mitigations on air emissions and VMT estimates from the project only. (See Appendix C for a full list and description of mitigation measures incorporated into the CalEEMod modeling analysis.) Table 4.4-3 summarizes the calculation of annual VMTs per capita using the 2013 Area Plan service population and VMT baseline from the transportation study. Future projections used residential and worker population estimates from Section 4.3 and the estimates of annual VMTs calculated using CalEEMod, which are added to the 2013 CCTA baseline. Since the annual VMTs per capita is lower under Alternative 1 compared to the baseline, these data demonstrate that the increase in VMTs is lower than the increase in population.

Table 4.4-3 Annual VMTs and Population Projections, Based on CalEEMod Modeling, Alternative 1

Alternative	Service Population	Annual VMTs	Annual VMTs per Capita
Baseline (2013)	185,300	1,642,189,385	8,862
Alternative 1	253,299	1,933,232,207	7,632

Therefore, the proposed action would have no significant impact on local and regional planning thresholds used for consistency with the applicable clean air plan.

4.4.1.2 Criteria Air Pollutants

Construction Emissions

Construction activities generate fugitive dust emissions from earthmoving and roads, and exhaust emissions from on-road and off-road construction equipment and vehicles. As recommended by BAAQMD (May 2012), construction emissions have been quantified, and because this action could require 20 years of construction, daily and annual significance thresholds are the same as operational thresholds. Construction emissions were calculated using CalEEMod 2013. Data inputs included building types and space volumes as described in Chapter 2. Fugitive dust PM_{10} and $PM_{2.5}$ emissions were calculated, assuming the application of water twice daily to active construction sites as a fugitive dust mitigation measure. Other mitigation measures would be used to reduce fugitive dust emissions and exhaust emissions during construction. The construction emission estimates do not incorporate all potential mitigation measures because the exact quantification of emission reductions associated with these measures cannot be accurately predicted without further knowledge of specific construction activities. Thus, because all potential mitigation measures are not incorporated in the construction emissions estimates presented in this section, these estimates are considered conservative.

Table 4.4-4 provides a summary of estimated maximum daily criteria pollutant exhaust emissions from construction equipment and vehicles for years 2016 through 2035. Daily VOC and NO_x PM_{10}, and $PM_{2.5}$ exhaust emissions from construction equipment and vehicles were compared to BAAQMD operational emissions significance thresholds (BAAQMD 1999) of 80 pounds per day for each of these criteria pollutants, and CO emissions were compared to a threshold of 550 pounds per day. Daily VOC and NO_x are estimated to exceed the daily significance thresholds for criteria pollutants in most years. The BAAQMD CO daily threshold is intended to determine the need for additional investigation and does not necessarily indicate a significant impact. The threshold is also only applicable to transportation emissions, not construction emissions. However, since CO emissions from construction activities are below this threshold, CO from construction would not have a significant adverse impact on air quality. There are no BAAQMD thresholds for SO_2 emissions; however, these SO_2 emissions are minor and also would not have an adverse impact on air quality.

Table 4.4-4 Maximum Daily Criteria Pollutant Emissions from Construction, 2016 to 2035

Year	Pollutant, lbs/day					
	VOCs (ROG)	NO_x	PM_{10}	$PM_{2.5}$	CO	SO_2
Significance Threshold:	**80**	**80**	**80**	**80**	**550**	**N/A**
2016	124.34	398.63	39.33	27.59	313.81	0.44
2017	121.22	369.78	37.55	25.94	299.20	0.44
2018	116.17	321.20	34.52	23.13	277.52	0.44
2019	113.12	291.54	32.63	21.36	265.85	0.44
2020	110.65	265.05	31.03	19.87	255.18	0.44
2021	108.24	238.27	29.45	18.4	245.31	0.44
2022	103.21	184.97	26.54	15.8	209.12	0.40
2023	101.83	168.85	25.58	14.9	204.11	0.40
2024	100.80	156.99	24.83	14.21	199.75	0.40
2025	99.29	138.96	23.8	13.25	192.13	0.40
2026	99.21	138.78	23.8	13.25	190.98	0.40
2027	99.15	138.66	23.8	13.25	190.17	0.40
2028	99.09	138.56	23.8	13.25	189.46	0.40
2029	99.02	138.46	23.8	13.25	188.58	0.40
2030	99.69	82.83	20.37	10.23	172.20	0.44
2031	99.65	82.75	20.37	10.23	171.68	0.44

Table 4.4-4 Maximum Daily Criteria Pollutant Emissions from Construction, 2016 to 2035

Year	Pollutant, lbs/day					
	VOCs (ROG)	NO_x	PM_{10}	$PM_{2.5}$	CO	SO_2
2032	99.61	82.68	20.37	10.23	171.22	0.44
2033	99.55	82.61	20.37	10.23	170.81	0.44
2034	99.51	82.56	20.37	10.23	170.44	0.44
2035	97.92	66.41	19.54	9.39	168.32	0.44

Key:
CO = carbon monoxide
NO_x = nitrogen oxides
PM = particulate matter
ROG = reactive organic gases
VOCs = volatile organic compounds

Table 4.4-5 provides a summary of CalEEMod estimated annual criteria pollutant exhaust emissions from construction for years 2016 through 2035. Based on CalEEMod estimates, annual VOC, NO_x, PM_{10} and $PM_{2.5}$ emissions from construction would exceed the annual BAAQMD operational significance thresholds (BAAQMD 1999) for criteria pollutants in some years, resulting in significant adverse impacts to air quality during construction. However, given the 25-year build-out period, emissions estimates may vary considerably from these estimates for the construction phase. Construction emissions are temporary, and would occur only during the construction period.

Table 4.4-5 Annual Criteria Pollutant Exhaust Emissions from Construction 2016 to 2035

Year	VOCs (ROG)	NOx	PM_{10}	$PM_{2.5}$	CO	SO_2
Significance Threshold:	**15**	**15**	**15**	**15**	**N/A**	**N/A**
2016	16.18	51.95	32.4	18.4	40.16	0.06
2017	15.71	48.01	32.15	18.18	38.16	0.06
2018	15.12	41.86	31.77	17.82	35.52	0.06
2019	14.73	37.99	31.52	17.59	34.03	0.06
2020	14.47	34.67	31.32	17.4	32.79	0.06
2021	14.10	31.05	31.11	17.21	31.40	0.06
2022	13.39	24.01	30.72	16.86	26.61	0.05
2023	13.22	21.92	30.6	16.75	25.98	0.05
2024	13.18	20.53	30.51	16.66	25.63	0.05
2025	12.94	18.10	30.37	16.53	24.55	0.05
2026	12.93	18.08	30.37	16.53	24.42	0.05
2027	12.92	18.07	30.37	16.53	24.32	0.05
2028	12.86	17.98	30.37	16.53	24.14	0.05
2029	12.91	18.04	30.37	16.53	24.14	0.05
2030	12.99	10.78	29.92	16.14	22.01	0.06
2031	12.99	10.77	29.92	16.14	21.94	0.06
2032	13.03	10.81	29.92	16.14	21.97	0.06
2033	12.93	10.72	29.92	16.14	21.75	0.06
2034	12.92	10.71	29.92	16.14	21.70	0.06
2035	12.76	8.64	29.86	16.03	21.51	0.06

Key:
CO = carbon monoxide
NO_x = nitrogen oxides
PM = particulate matter
ROG = reactive organic gases
VOCs = volatile organic compounds

The City of Concord MMRP includes construction emission mitigation measures (MMRP Mitigation Measure Air Quality-5; Book 2, Air Quality Policy SHN-4.5). These measures require that all feasible construction-activity-control measures will be applied at the site. During the city's review and approval of applications for development following the transfer of property, the requirement for implementing construction activity-control measures will be triggered. The protective measures that will be implemented during construction will accompany all development permits and authorizations as a condition of approval and could include maintenance and idling limitations. Implementation will be monitored as part of the permit and authorization process. This measure is discussed in Chapter 7, Table 7-1.

Operational Emissions

Operational emissions were calculated using CalEEMod 2013. Data inputs included building types and space volumes as described in Chapter 2. Assumptions and mitigation measures defined in the Area Plan and used in the development of the Area Plan CAP analysis were included with revised assumptions of the EIS analysis. A summary of the CalEEMod modeling results, including summary of data inputs and assumptions, is provided in Appendix C.

Table 4.4-6 provides a summary of estimated daily and annual criteria pollutant emissions from operations after full build-out of the Area Plan. Daily emissions were estimated for winter and summer conditions, and the table provides the maximum daily value estimated. Based on CalEEMod estimates, VOC, NO_x, PM_{10} and $PM_{2.5}$ emissions would exceed the daily and annual thresholds, resulting in significant adverse impacts on air quality. The exceedance of the CO daily threshold indicated that a further evaluation of potential CO hotspots was warranted, and this was completed (see discussion below). SO_2 emissions are minor and would not have an adverse impact on air quality.

Table 4.4-6 Maximum Daily and Annual Criteria Pollutant Emissions from Operations

Pollutant	Daily Emissions (lbs/day)	Daily Significance Threshold (lbs/day)	Annual Emissions (tons/year)	Annual Significance Threshold (tons/year)
VOCs (ROG)	1,553.43	80	261.39	15
NO_X	713.19	80	107.71	15
PM_{10}	753.42	80	112.12	15
$PM_{2.5}$	219.00	80	32.64	15
CO (Total)	5,272.12	N/A	657.85	N/A
CO (Transportation)	4,208.28	550	556.63	N/A
SO_2	11.74	N/A	1.71	N/A

Key:
CO = carbon monoxide
NOx = nitrogen oxides
PM = particulate matter
ROG = reactive organic gases
VOCs = volatile organic compounds

The City of Concord will adhere to measures included in its Area Plan and citywide CAP to reduce automobile dependence and potential vehicle emissions. These measures include development of the "complete streets concept," to accommodate mass transit, vehicles, bicycles, and pedestrians, balanced on the physical transportation network; mixed-use development with community services and retail to support residential units; and high-density development near the North Concord/Martinez BART Station. To further reduce PM emissions, wood-burning fireplaces will be prohibited or required to employ best available control technologies. A discussion and report of all mitigations considered in the analysis is included in Appendix C. These mitigation measures have been listed in Chapter 7, Table 7-1.

The BAAQMD CEQA guidelines indicate that a project's contribution to cumulative impacts should be considered significant if the project individually causes significant impacts by exceeding the BAAQMD quantitative thresholds. Since the project's individual air quality impacts would be significant and adverse, the project's contribution to any cumulative impact could be considered significant. The potential for cumulative impact on air quality is discussed in Chapter 5.

Carbon Monoxide "Hot Spots"

Emissions and ambient concentrations of CO have decreased dramatically in the SFBAAB with the introduction of the catalytic converter in 1975. SFBAAB is currently designated as an attainment area for the CAAQS and NAAQS for CO. However, occurrences of localized CO concentrations, known as "hot spots," can be associated with heavy traffic congestion, which most frequently occurs at signalized intersections of high-volume roadways. If the project is contributing to CO concentrations exceeding the state ambient air quality standards (9 ppm [8-hour average] and 20 ppm [1-hour average]), it may be considered to have a significant impact.

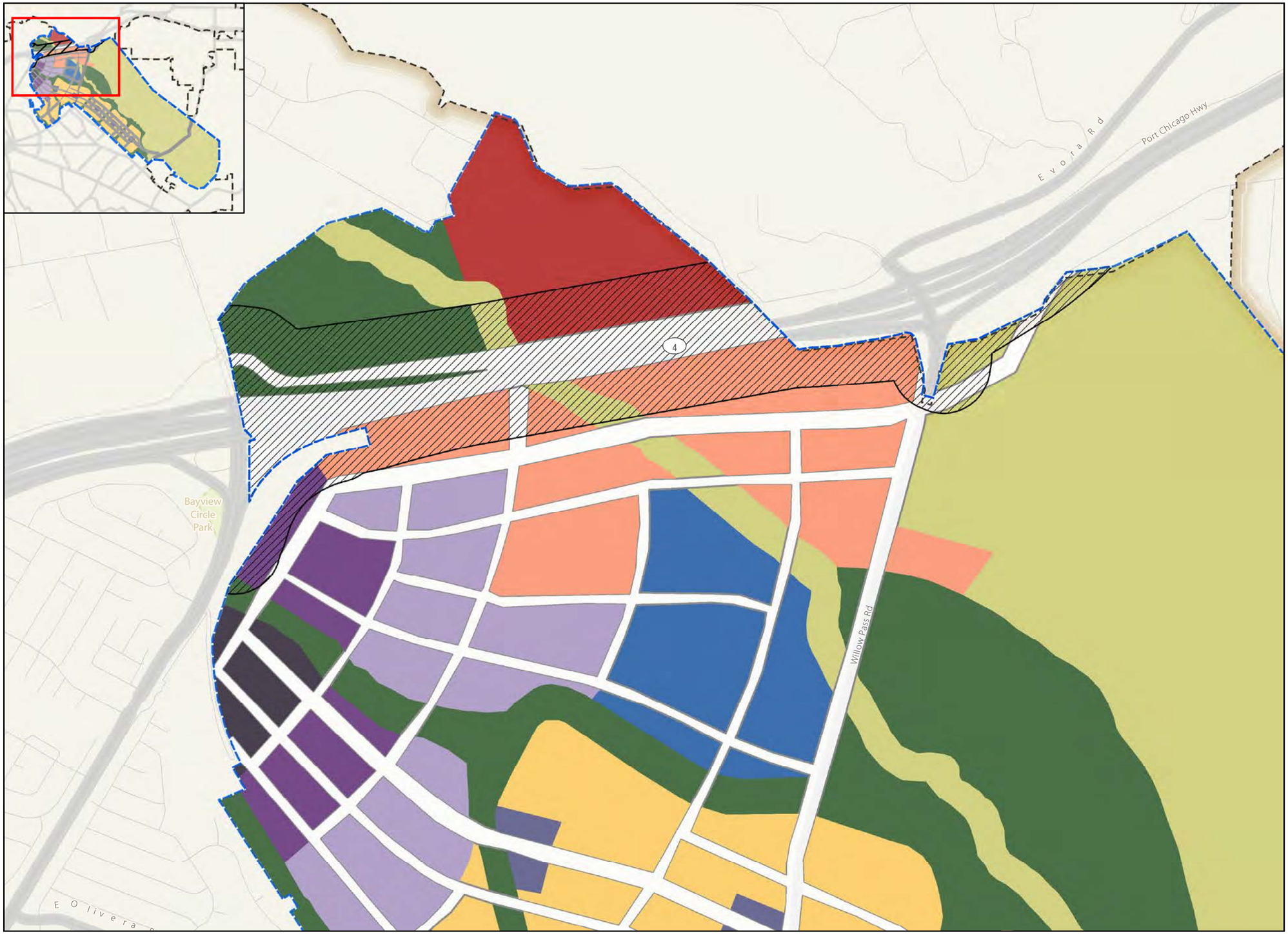
A CO hot spot modeling analysis was conducted at the 28 intersections considered in the transportation impact study (Kittelson and Associates, Inc., 2016). CO ambient concentrations were estimated at receptors along each intersection using the CALINE4 traffic emission dispersion model. The modeling inputs incorporated traffic data with modeling guidance from the BAAQMD and CalTrans. Based on this analysis, CO concentrations near the 28 intersections would be well below the CAAQS for CO of 9 ppm (8-hour average) and 20 ppm (1-hour average) following full build-out under Alternative 1, and no significant adverse impact would result. The CO hot spot modeling analysis is included in Appendix C.

4.4.1.3 Hazardous Air Pollutants: Protection of Sensitive Receptors

Impacts from HAPs could result from the location of sensitive receptors near the two existing sources of HAPs near or within the project site: SR 4 and the Tesoro Golden Eagle Refinery. According to the CARB's Air Quality and Land Use Handbook (CARB 2005) and California Air Pollution Control Officers' Association's (CAPCOA) "Health Risk Assessments for Proposed Land Use Projects" (CAPCOA 2009), urban roadways carrying over 100,000 vehicles per day, with typical diesel truck traffic of over 10,000 trucks per day, have been shown in numerous studies to cause an increase in respiratory health effects and increased cancer risks to sensitive receptors near the highways (i.e., within 300 to 500 feet).

The project could have significant impacts if sensitive receptors are within 500 feet of highways and refineries. Figure 4.4-1 shows the location of a 500-foot buffer around SR 4 in relation to the development districts under Alternative 1. Portions of the Commercial Flex and TOD Neighborhood development districts, and the Conservation Open Space would be located within the buffer on the southern side of the highway, while the First Responder Training Center and the Diablo Golf Course are planned for the northern side. The City of Concord has committed in the MMRP to prohibit construction of residential uses, daycare centers, medical facilities, and other sensitive receptors within 500 feet of SR 4; therefore, no significant adverse impact from project-related HAP emissions would result.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Air_Quality_Alternative_1.mxd



*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

Figure 4.4-1

Alternative 1, Sensitive Receptor Buffer for Air Quality Concerns

Former NWS Concord

Concord, California

Legend

- Major Highway
- Local Road
- 500-ft Buffer of SR-4
- Roadways
- Former NWS Concord
- City Limits
- Waterbody
- Local Park

*Alternative 1 Types of Districts

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways and Citywide Parks
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

N

SCALE

0 1,000 2,000 Feet

SOURCE: ESRI, 2010; Contra Costa County, 2004, 2011.

This page intentionally left blank.

4.4.1.4 Nuisance Odors

Construction activities under Alternative 1 could result in odors (e.g., from diesel exhaust emitted by equipment); however, these odors would be temporary and intermittent. Proper maintenance of equipment would reduce or prevent odors. There would be no significant construction-related impacts from odors.

Odors generated during operations after full implementation would depend primarily on the types of businesses and activities conducted in the new communities. The land uses proposed in the Area Plan under Alternative 1 are not land uses that would typically generate substantial concentrations of odors. As discussed in the FEIR, existing potential sources of odors include SR 4 and the Tesoro Golden Eagle Refinery, which is located within 2 miles to the northwest of the site. The established 500-foot buffer of SR 4 would prevent the location of sensitive receptors near the highway, and the distance from the Tesoro refinery would likely prevent odors from this source. Therefore, it is unlikely that the operation of Alternative 1 would expose receptors to substantial odor concentrations. The operational impact of Alternative 1 related to odor exposure would not be significant.

4.4.1.5 Greenhouse Gases

The State of California has recognized the importance of reducing GHG emissions through state-level legislation and executive action. The GHG-specific executive action and other pertinent state-level legislation are summarized in Section 3.4.

The project may have a significant impact if it conflicts with or obstructs implementation of the applicable air quality plan. There are no applicable significance thresholds for total GHG emissions from an action. BAAQMD 1999 Guidelines do not provide guidance for GHG emissions, and BAAQMD's 2012 updated CEQA guidelines do not provide significance thresholds. In the absence of concrete guidance in the local air quality plan, the BAAQMD recommends that lead agencies make determinations regarding the significance of an individual project's air quality impacts based on the substantial evidence in the record for that project.

The Area Plan adopted by the City of Concord includes a GHG-reduction plan. The Area Plan responds both to the requirements of state law and to mitigation measures specified in the FEIR for the Concord Naval Weapons Station Reuse Plan. To document this compliance, the Area Plan CAP established a threshold of significance for the Area Plan in 2030 of 2.8 metrics tons CO_{2e} per capita, considering BAAQMD guidance and statewide emission targets for 2020 and 2030 set by EO S-3-05. The Area Plan CAP presented evidence that the Area Plan would provide adequate mitigation measures to reduce per-capita GHG emissions to meet state and local air quality goals. If the project results in an average annual emission rate less than 2.8 metric tons CO_{2e} per capita (based on a service population, which includes residential and working populations), as demonstrated in the Area Plan CAP, then the project's GHG emissions would not interfere with state and local GHG goals and therefore would not result in a significant adverse impact.

Project-related annual operational emissions of GHGs for Alternative 1 were estimated using CalEEMod. Data inputs included building types and space volumes as described in Chapter 2. Assumptions and mitigation measures defined in the Area Plan and used in the development of the CAP analysis were included with revised assumptions of the EIS analysis. Table 4.4-7 provides a summary of all of the estimated annual GHG emissions from operations after full build-out of the Area Plan. Both mitigated and unmitigated analysis summaries are presented, demonstrating that planned mitigation will provide a significant reduction in GHG emissions. Since the estimated annual per-capita GHG emissions resulting from the implementation of the Area Plan with planned mitigations will not exceed the threshold, the GHG emissions associated with Alternative 1 will not result in significant adverse impacts. A summary of

the CalEEMod modeling results, including summary of data inputs and assumptions, is provided in Appendix C.

Table 4.4-7 Annual GHG Emissions, Alternative 1

Emission Source	Annual Emissions ($MTCO_{2e}$/year) Mitigated	Annual Emissions ($MTCO_{2e}$/year) Unmitigated
Area sources	151	
Energy	22,599	84,785
Mobile	102,024	166,044
Waste	3,301	8,464
Water	6,671	7,906
Total	**134,746**	**267,349**
Increased service population	67,999	67,999
per capita emissions	2.0	3.9
Annual Total Emissions Significance Threshold ($MTCO_{2e}$/year) (based on a per capita threshold of 2.8 $MTCO_{2e}$/year)	**190,397**	

Key:
$MTCO_{2e}$ = metric tons carbon dioxide equivalent

4.4.2 Alternative 2

Alternative 2 has a slightly smaller development footprint than Alternative 1 but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development. Under Alternative 2, approximately 70 percent of the property would be maintained as conservation, parks, or recreational land uses, and 30 percent would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses. Development on the site would allow for up to a maximum of 15,872 housing units and 6.1 million square feet of commercial space within the development footprint. (The total area of commercial uses would be the same for Alternative 2 as Alternative 1.) A higher concentration of development would occur at the north end, near SR 4 and the North Concord/Martinez BART Station. All assumptions and mitigations identified in the Area Plan would also be implemented under Alternative 2.

This section describes the analysis conducted and presents the data used to evaluate air quality impacts of Alternative 2 using the methods described in Section 4.4.1. Since the project's air quality impacts are potentially significant under Alternative 2, the project's contribution to any cumulative impact could be considered significant. The potential for the cumulative impact on air quality is discussed in Chapter 5.

4.4.2.1 Planning Thresholds

Population growth for Alternative 2 was evaluated using the same method used for Alternative 1 (See Section 4.4.1.1). Full implementation under Alternative 2 is estimated to support a population of 40,309, based on the number of housing units and the demographic multiplier as discussed in Section 4.3. This increase would result in a 2035 population projection citywide of 166,577. The project would not be inconsistent with the applicable clean air plan because it would result in a final population (i.e., 166,577) that would be less than the value included in the ABAG Priorities Plan (i.e., 181,500). Table 4.4-8 provides the population projections for Alternative 2 as well as the population projections from ABAG (ABAG 2013).

Table 4.4-8 Population Projections, Alternative 2

Plan/Alternative	Total Population (City of Concord) 2015	Projected Increase	Total Population (City of Concord) 2040
Association of Bay Area Governments Projections and Priorities 2013 (2013)	125,300	59,433	181,500
Alternative 2	126,268	40,309	166,577

The rate of change in VMTs relative to population under Alternative 2 is determined based on a comparison of the daily VMTs per capita for the 2013 baseline and the daily VMTs per capita estimated after full implementation of Alternative 2. Table 4.4-9 provides a summary of the transportation impact study data and comparison of the daily VMTs per-capita values for the City of Concord.

Table 4.4-9 Daily VMTs and Population Projections Based on Transportation Analysis, Alternative 2

Alternative	Service Population (City of Concord)	Daily VMTs	Daily VMTs per Capita
Baseline (2013)	185,300	4,499,149	24
Alternative 2	257,332	6,420,293	25

As shown in Table 4.4-9, daily VMTs per capita under Alternative 2 would be higher than those of Alternative 1 or the baseline, using the daily VMTs per capita from the transportation study. Table 4.4-10 summarizes the calculation of annual VMTs per capita using the 2013 Area Plan baseline and changes in annual VMTs calculated using CalEEMod. With the incorporation of planned transportation mitigations, the annual VMT per capita is lower under Alternative 2 than under Alternative 1 or the baseline. Therefore, the increase in VMTs associated with Alternative 2 would not be inconsistent with the applicable clean air plan.

Table 4.4-10 Annual VMTs and Population Projections Based on CalEEMod Modeling, Alternative 2

Alternative	Service Population	Annual VMTs	Annual VMTs per Capita
Baseline (2013)	185,300	1,642,189,385	8,862
Alternative 2	263,479	1,951,956,938	7,408

Therefore, the proposed action under Alternative 2 would have no significant impact on local and regional planning thresholds used for consistency with the applicable clean air plan.

4.4.2.2 Criteria Air Pollutants

Construction Emissions

While there would be more homes built under Alternative 2, these residences would occupy the same footprint compared to Alternative 1. Given the relatively small differences in the alternatives relative to the overall development footprint, the amount of construction activity for Alternative 2 was calculated as roughly equivalent to the construction activity for Alternative 1. The emission estimates for both alternatives are close to equal because they utilize the same non-road-construction equipment profile estimates and the same mitigation assumptions.

Table 4.4-11 provides a summary of estimated maximum daily criteria pollutant exhaust emissions from construction for years 2016 through 2035. Table 4.4-12 provides a summary of estimated annual criteria pollutant emissions from construction for years 2016 through 2035.

Table 4.4-11 Maximum Daily Criteria Pollutant Exhaust Emissions from Construction, 2016 to 2035

Year	Pollutant					
	VOCs (ROG)	NO_X	PM_{10}	$PM_{2.5}$	CO	SO_2
Significance Threshold:	**80**	**80**	**80**	**80**	**550**	**N/A**
2016	134.44	401.37	41.04	28.07	326.22	0.47
2017	131.21	372.23	39.26	26.41	310.39	0.47
2018	126.07	323.42	36.23	23.6	287.63	0.47
2019	122.95	293.57	34.33	21.84	275.14	0.47
2020	120.44	266.82	32.73	20.35	263.84	0.47
2021	118.00	239.81	31.14	18.87	253.47	0.47
2022	112.93	186.36	28.24	16.27	216.82	0.43
2023	111.53	170.08	27.28	15.38	211.41	0.43
2024	110.47	158.18	26.53	14.68	206.69	0.43
2025	108.94	140.12	25.5	13.72	198.81	0.43
2026	108.85	139.90	25.5	13.72	197.42	0.43
2027	108.77	139.77	25.5	13.72	196.41	0.43
2028	108.70	139.64	25.5	13.72	195.54	0.43
2029	108.62	139.52	25.5	13.72	194.47	0.43
2030	109.28	83.86	22.07	10.7	177.94	0.46
2031	109.23	83.77	22.07	10.7	177.29	0.46
2032	109.17	83.69	22.07	10.7	176.72	0.46
2033	109.10	83.60	22.07	10.7	176.22	0.46
2034	109.05	83.53	22.07	10.7	175.75	0.46
2035	107.45	67.38	21.24	9.87	173.55	0.46

Key:
CO = carbon monoxide
NO_x = nitrogen oxides
PM = particulate matter
ROG = reactive organic gases
VOCs = volatile organic compounds

Table 4.4-12 Annual Criteria Pollutant Exhaust Emissions from Construction 2016 to 2035

Year	VOCs (ROG)	NOx	PM_{10}	$PM_{2.5}$	CO	SO_2
Significance Threshold:	**15**	**15**	**15**	**15**	**N/A**	**N/A**
2016	17.48	52.29	32.6	18.46	41.65	0.06
2017	17.01	48.31	32.35	18.27	39.50	0.06
2018	16.41	42.14	31.97	17.88	36.73	0.06
2019	16.01	38.25	31.72	17.65	35.14	0.06
2020	15.74	34.90	31.52	17.46	33.83	0.06
2021	15.37	31.24	31.31	17.26	32.37	0.06
2022	14.65	24.18	30.92	16.92	27.53	0.05

Table 4.4-12 Annual Criteria Pollutant Exhaust Emissions from Construction 2016 to 2035

Year	VOCs (ROG)	NOx	PM_{10}	$PM_{2.5}$	CO	SO_2
2023	14.47	22.07	30.8	16.8	26.85	0.05
2024	14.45	20.68	30.71	16.72	26.47	0.05
2025	14.19	18.25	30.57	16.59	25.35	0.05
2026	14.18	18.22	30.57	16.59	25.19	0.05
2027	14.17	18.20	30.57	16.59	25.07	0.05
2028	14.11	18.12	30.57	16.59	24.87	0.05
2029	14.15	18.17	30.57	16.59	24.84	0.05
2030	14.24	10.91	30.12	16.2	22.69	0.06
2031	14.23	10.90	30.12	16.2	22.61	0.06
2032	14.28	10.93	30.12	16.2	22.62	0.06
2033	14.16	10.84	30.12	16.2	22.39	0.06
2034	14.16	10.83	30.12	16.2	22.33	0.06
2035	14.00	8.76	30.02	16.09	22.13	0.06

Key:
CO = carbon monoxide
NO_x = nitrogen oxides
PM = particulate matter
ROG = reactive organic gases
VOCs = volatile organic compounds

Based on CalEEMod estimates, VOC, NO_x. PM_{10} and $PM_{2.5}$ emissions during construction under Alternative 2 would exceed the thresholds for criteria pollutants in some years, resulting in significant adverse impacts on air quality during construction. However, given the 25-year build-out period, emissions estimates may vary considerably from these estimates for the construction phase. As discussed in Alternative 1, the City of Concord has committed in its MMRP to require that all feasible construction-activity-control measures would be applied at this site prior to approving any construction and these are listed in Chapter 7, Table 7-1. Construction emissions are temporary and would occur only during the construction period.

Operational Emissions

Operational emissions under Alternative 2 were calculated using CalEEMod, as described in Section 4.4.1.2. Table 4.4-13 provides a summary of estimated daily maximum and annual criteria pollutant emissions from operations after full build-out of Alternative 2. VOC, NO_x, PM_{10}, and $PM_{2.5}$ emissions would exceed the daily and annual thresholds, resulting in significant adverse impacts to air quality. The exceedance of the CO daily threshold indicated that a further evaluation of potential CO hotspots was warranted, and this was completed (see discussion below).

As described in Section 4.4.1.2, the City of Concord will adhere to measures included in its Area Plan to reduce automobile dependence and potential vehicle emissions as noted in Chapter 7, Table 7-1. A discussion and detailed report of mitigations considered in the analysis is included in Appendix C.

Table 4.4-13 Daily Maximum and Annual Criteria Pollutant Emissions from Operations

Pollutant	Daily Maximum Emissions (lbs/day)	Daily Significance Threshold (lbs/day)	Annual Emissions (tons/year)	Annual Significance Threshold (tons/year)
VOCs (ROG)	1,656.67	80	280.29	15
NO_X	742.06	80	113.60	15
PM_{10}	789.26	80	119.41	15
$PM_{2.5}$	230.35	80	34.82	15
CO (Total)	5,700.04	N/A	713.30	N/A
CO (transportation)	4,333.22	550	584.72	N/A
SO_2	12.27	N/A	1.81	N/A

Carbon Monoxide "Hot Spots"

As described in Section 4.4.2.1, a CO hot spot modeling analysis was conducted at the 28 intersections considered in the transportation impact study (Kittelson & Associates, Inc., 2016). CO ambient concentrations were estimated at receptors along each intersection using the CALINE4 traffic emission dispersion model. The modeling inputs incorporated traffic data with modeling guidance from the BAAQMD and CalTrans. Based on this analysis, CO concentrations near the 28 intersections would be well below the state CO ambient air quality standards of 9 ppm (8-hour average) and 20 ppm (1-hour average) following full build-out under Alternative 2, and no significant adverse impacts from CO emissions would result. The CO hot spot modeling analysis is included in Appendix C.

4.4.2.3 Hazardous Air Pollutants: Protection of Sensitive Receptors

Impacts from HAPs under Alternative 2 could result from the location of sensitive receptors near the two existing sources of HAPs near or within the project site: SR 4 and the Tesoro Golden Eagle Refinery. A 500-foot buffer from highways and refineries protects sensitive receptors. Figure 4.4-2 shows the location of the 500-foot buffer around SR 4 in relation to the development districts under Alternative 2.

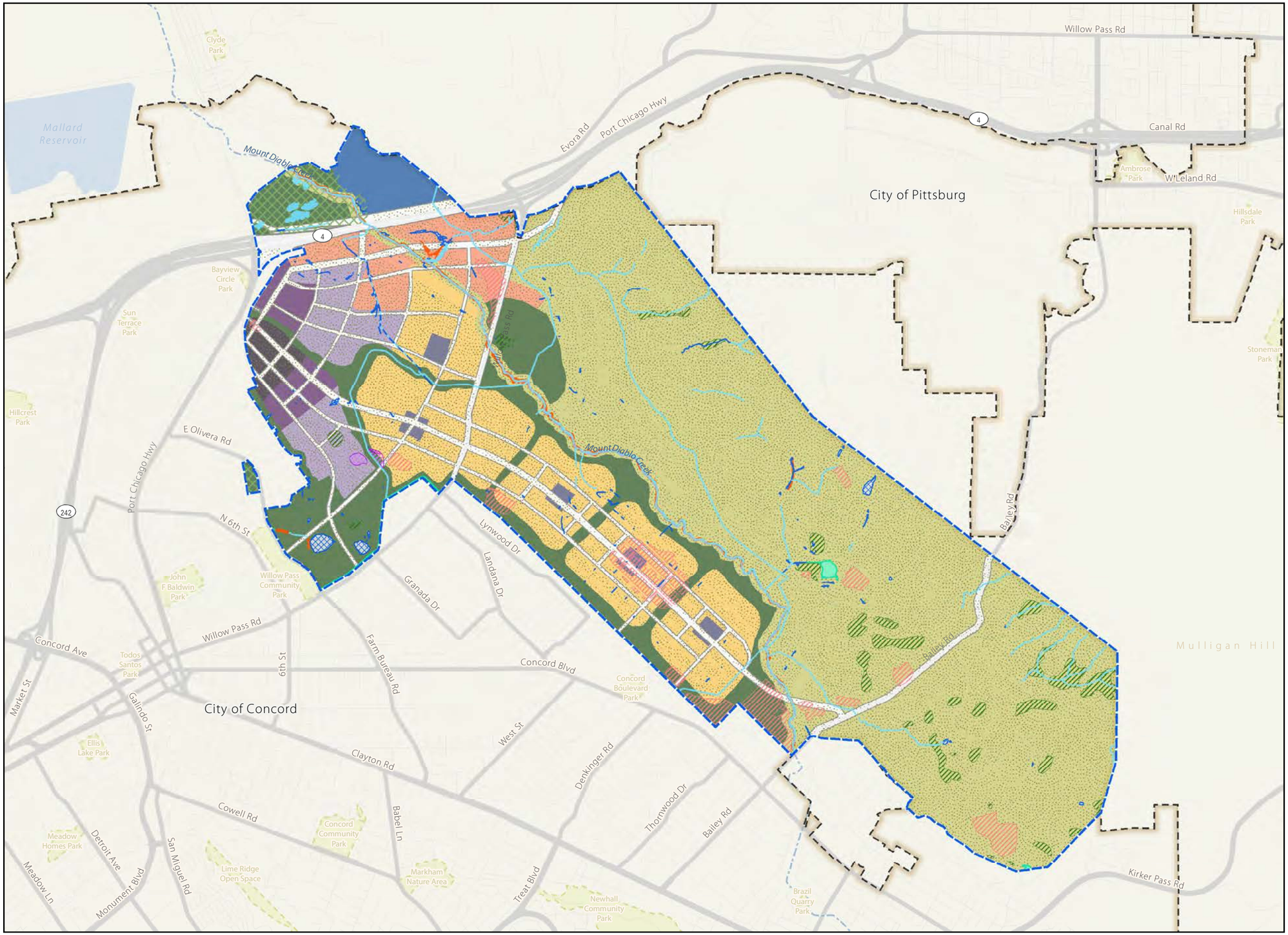
Portions of the Commercial Flex and TOD Neighborhood development districts, and the Conservation Open Space would be located within the buffer on the southern side of the highway, while the Campus Center and Mt. Diablo Golf Course are planned for the northern side. The City of Concord has committed in the MMRP to prohibit construction of residential uses, daycare centers, medical facilities, and other sensitive receptors within 500 feet of SR 4; therefore, no significant adverse impact from project-related HAP emissions would result.

4.4.2.4 Nuisance Odors

Construction activities under Alternative 2 could result in odors (e.g., from diesel exhaust emitted by equipment); however, these odors would be temporary and intermittent. Proper maintenance of equipment would reduce or prevent odors. There would be no significant construction-related impacts from odors.

Odors generated during operations after full implementation would depend primarily on the types of businesses and activities conducted in the new communities. The land uses proposed in the Area Plan under Alternative 2 are not land uses that would typically generate substantial concentrations of odors. As discussed in the FEIR, existing potential sources of odors include SR 4 and the Tesoro Golden Eagle Refinery, which is located within 2 miles to the northwest of the site. The established 500-foot buffer of SR 4 would prevent the location of sensitive receptors near the highway, and the distance from the Tesoro

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Vegetation_new_Alt_2.mxd



*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

Figure 4.5-2
Alternative 2 Redevelopment and Potential Vegetation Impacts
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Roadways

Vegetation Communities

- Seasonal Wetlands
- Creeks / Drainages / Canals / Ponds
- California Annual Grassland
- Freshwater Marsh
- Coyote Brush / Coastal Sage Scrub
- Golf Course / Recreation
- Oak Woodland / Savannah
- Orchards and Plantations
- Riparian Woodland

***Alternative 2 Types of Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- Greenways and Citywide Parks
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

N

SCALE

0 0.5 1 Miles

SOURCE: City of Concord, 2010; H. T. Harvey & Associates, 2009.

This page intentionally left blank.

refinery would likely prevent odors from this source. Therefore, it is unlikely that the operation of Alternative 2 would expose receptors to substantial odor concentrations. The operational impact of Alternative 2 related to odor exposure would not result in a significant adverse impact.

4.4.2.5 Greenhouse Gases

Project-related annual operational emissions of GHGs for Alternative 2 were estimated using the same method described in Section 4.4.1.5. Table 4.4-14 provides a summary of all of the estimated annual GHG emissions from operations after full build-out under Alternative 2. Both mitigated and unmitigated analysis summaries are presented, demonstrating that planned mitigation would provide a significant reduction in GHG emissions. While total annual GHG emissions will be higher under Alternative 2 compared to Alternative 1, the estimated annual per-capita GHG emissions resulting from the full implementation under Alternative 2 would not exceed the threshold established in the Area Plan CAP. Therefore, emissions of GHGs under Alternative 2 would not result in significant adverse impacts. A summary of the CalEEMod modeling results, including summary of data inputs and assumptions, is provided in Appendix C.

Table 4.4-14 Annual GHG Emissions, Alternative 2

Emission Source	Annual Emissions ($MTCO_{2e}$/year) Mitigated	Annual Emissions ($MTCO_{2e}$/year) Unmitigated
Area sources	197	197
Energy	25,310	87,563
Mobile	108,415	175,596
Waste	3,544	9,088
Water	7,218	8,529
Total	**144,684**	**280,973**
Increase in service population	78,179	78,179
Per capita emissions	2.5	4.9
Annual Total Emissions Significance Threshold ($MTCO_{2e}$/year) (based on a per capita threshold of 2.8 $MTCO_{2e}$/year)	**218,901**	

Key:
$MTCO_{2e}$ = metric tons carbon dioxide equivalent

4.4.3 No Action Alternative

The No Action Alternative is the retention of surplus property at the former NWS Concord by the U.S. government in caretaker status. Under the No Action Alternative, no reuse or redevelopment would occur at the surplus property, resulting in no significant adverse impacts on air quality. While no new emissions would be generated as a result of the action, the improvements and mitigations planned for the City of Concord would not be implemented, and, given the growth of population anticipated in the region, criteria pollutants and GHG emissions would continue to increase.

4.4.4 Climate Change

The Office of the Chief of Naval Operations M-5090.1 Environmental Readiness Program Manual (Navy January 10, 2014) states that the Navy must address the effects of climate change, identifying and quantifying GHG emissions that may be generated in executing the proposed action (as provided in Section 4.4.1.5 and 4.4.2.5 above) and also describing the beneficial activities being implemented Navy-wide to reduce GHG emissions.

Under all of the alternatives, the effects and impacts of climate change may impact the implementation of the action. As discussed in Chapter 3, global climate change threatens ecosystems, water resources, coastal regions, crop and livestock production, and human health. Evidence for global, national, and regional effects of climate change has been growing. In 2016, the EPA released the fourth report describing the following trends related to the causes and effects of climate change (EPA 2016a):

- While U.S. GHG emissions decreased 7 percent since 2005, these annual emissions still represent a 7percent increase between 1990 and 2015. CO_2 in the atmosphere has increased from a historical peak of 280 parts per million to an average of 400 parts per million.
- Average U.S. and global temperatures have increased since 1900, more quickly since the 1970s. The top 10 warmest years on record have all occurred since 1998, and extreme high and low temperature conditions are becoming more common. Changes in climate patterns include more intense storms in some areas and more severe droughts in others.
- Average sea surface temperatures have increased, resulting in more acidic oceans as well as rising sea levels. Average global sea levels rose an average of 0.06 inch per year from 1880 to 2013; however, they have risen 0.11 to 0.14 inch per year since 1993. Despite overall increases, regional changes in sea level vary, and increases in land elevation have resulted in a decrease in sea level in some locations in Alaska and the Pacific Northwest.
- Climate change has resulted in changes in snow and ice. On average, snowfall, snow cover, and snowpack in the northern U.S. have decreased. Changes in snow cover and reduced snowfall affect water supplies, hydroelectric power production, transportation, recreation, vegetation, and wildlife.
- Changes in the Earth's climate will have secondary effects on the health and well-being of its human inhabitants and natural ecosystems (EPA 2016a).

The continuing increase in GHG concentrations in Earth's atmosphere will likely result in a continuing increase in global annual average temperature and climate change effects. Global, federal, state, and regional initiatives to reduce GHG emissions have been implemented to reduce the severity of climate change impacts in the future. These changes would occur under all alternatives. Because GHGs remain in the atmosphere for long periods of time, the concentrations of GHGs in the atmosphere are likely to continue to remain elevated despite reductions in GHG emissions (IPCC 2014); therefore, the impacts of climate change described above are likely to continue to occur. Depending on society's commitment to reducing GHG emissions, the EPA predicts that CO_2 concentrations could be stabilized at about the current levels of 400 parts per million by the end of this century, but if unchecked, could reach 1,300 parts per million by then. By 2100, global average temperatures are expected to rise between 2.7 degrees and 8.6 degrees Fahrenheit. These temperature levels would result in a continuation of effects, such as the increase in sea levels, extreme weather events, and ocean acidification—all of which will increase impacts on ecological and economic systems, as well as human health. Significant reductions in GHG emissions will only reduce the severity of climate change impacts; however, such reductions will be critical to limiting impacts on infrastructure and natural resources (EPA 2016a).

The proposed action, including implementation of the project-specific Area Plan CAP, has been designed to address climate change and reduce per capita GHG emissions in accordance with state and regional initiatives. Contra Costa County has completed a Draft Climate Action Plan (Contra Costa County 2012b) that identifies how the county can achieve a GHG reduction target of 15 percent below baseline levels by the year 2020. The City of Concord has prepared a draft citywide CAP (City of Concord 2013a) that provides guidelines for GHG-emission reduction. Much of the growth in the City of Concord over the coming decades will be associated with the reuse of the former NWS Concord. The Area Plan features

new, sustainable development, and the CAP (i.e., Book 3 of the Area Plan) specifically focuses on reducing GHG emissions.

The DOD and the Department of the Navy have established various directives, including DOD Directive 4715.21, from January 2016, which integrates climate change considerations into all aspects of the department (DOD 2016a). DOD components are charged with assessing, managing risks, and mitigating the effects of climate change on natural and cultural resource management, force structure, basing, and training and testing activities in the field environment.

Additionally, the DOD 2016 Operational Energy Strategy (DOD 2016b) sets forth plans to reduce the demand for energy and secure energy supplies. This policy also directs DOD components to reduce GHG emissions from operational forces. Other recent policies, updates, and/or directives include the FY 16 DOD Sustainability Performance Plan (DOD 2016c) and the 2014 Climate Change Adaptation Roadmap (DOD 2014), which focuses on various actions DOD is taking to increase its resilience to the impacts of climate change. The Secretary of the Navy set goals to improve energy security, increase energy independence, and reduce the reliance on petroleum by increasing the use of alternative energy (Navy October 2010).

4.5 Biological Resources

This section summarizes the potential impacts on biological resources from the implementation of Alternative 1, Alternative 2, and the No Action Alternative. The impact analysis considered future conditions of the vegetative communities and habitats, fish and wildlife populations, and threatened and endangered species from the disposal and future reuse of the former NWS Concord. Impacts on vegetation communities and habitats were estimated using a GIS analysis based on City of Concord data developed for the installation (provided by Chazan [2017]). In addition, the Navy and the USACE have consulted with the USFWS regarding the potential effects of the proposed action on threatened and endangered species as described below, and the results of this consultation process are discussed in Section 4.5.1.3.

On November 6, 2012, the City of Concord applied to the USACE for a site-wide Section 404 Individual Permit in order to comply with CWA requirements for unavoidable impacts on wetlands and Waters of the U.S.; supplemental information was provided to the USACE on December 10, 2015. This submittal included a Biological Assessment (BA) to comply with requirements of Section 7 of the ESA for impacts on threatened and endangered species and their habitats. Accordingly, the USACE initiated consultation with the USFWS pursuant to Section 7 of the ESA on June 12, 2013, to support permit issuance and review, and the Navy joined this consultation on October 2, 2013. On May 30, 2017, the Section 7 ESA consultation concluded with the USFWS issuance of a BO and ITS, which incorporated conservation measures developed through consultations with the Navy, the City of Concord, the USACE, EBRPD, and the USFWS, providing guidelines for minimizing impacts on federally listed species during implementation of the Area Plan.[2] These are discussed in detail in Section 4.5.1.3 and Chapter 7; the BO

[2] The Biological Opinion utilizes revised area estimates for the development districts provided by the City of Concord during the consultation process to more accurately account for minor land changes that occurred during the Section 7 consultation process. These revised area estimates are minor and do not represent substantive changes to the impact calculations, as presented in the EIS. In addition, the City of Concord revised its estimate of the build out period for the Area Plan from 25 to 35 years. The build out period remains a planning estimate, and does not affect the analysis in the EIS, which considered impacts during construction and when full build-out is completed. Specific development proposals throughout the build-out period will need to follow a design review and permitting process by the City of Concord, during which a site-specific environmental review under CEQA will need to be completed and will address current conditions.

is included in Appendix I. All of the agency correspondence in regards to Section 7 of the ESA is presented in Appendix A.

Following disposal of the property by the Navy and prior to any reuse associated with Alternative 1 or Alternative 2, any future developer of the installation would be required to comply with local, state, and federal laws and regulations pertaining to biological resources.

4.5.1 Alternative 1

Alternative 1 would maintain approximately 54 percent of the property as conservation and open space, and the remaining 46 percent would be redeveloped as a mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, research and development/educational land uses, and greenways, citywide parks, and recreational areas within eight types of development districts. Figure 4.5-1 shows the Alternative 1 districts in relation to the vegetation communities on-site. The conservation area and open space would include a 2,537-acre regional park along the east side of the property, including the ridgeline of the Los Medanos Hills area, and the Mt. Diablo Creek corridor. The EBRPD plans to manage the regional park in accordance with the management policies defined in the EBRPD Master Plan 2013 (EBRPD 2013a); (see Section 3.2.4 for a list of the policies applicable to regional parks). Once full build-out is complete, approximately 2,231 acres of land would be developed and integrated into the City of Concord.

As discussed in Chapter 2, reuse of the former NWS Concord would disturb up to 2,467 acres of land, based on the assumption that 5 percent of the Conservation Open Space would be disturbed during construction, and all land within the other development districts would be disturbed during construction.

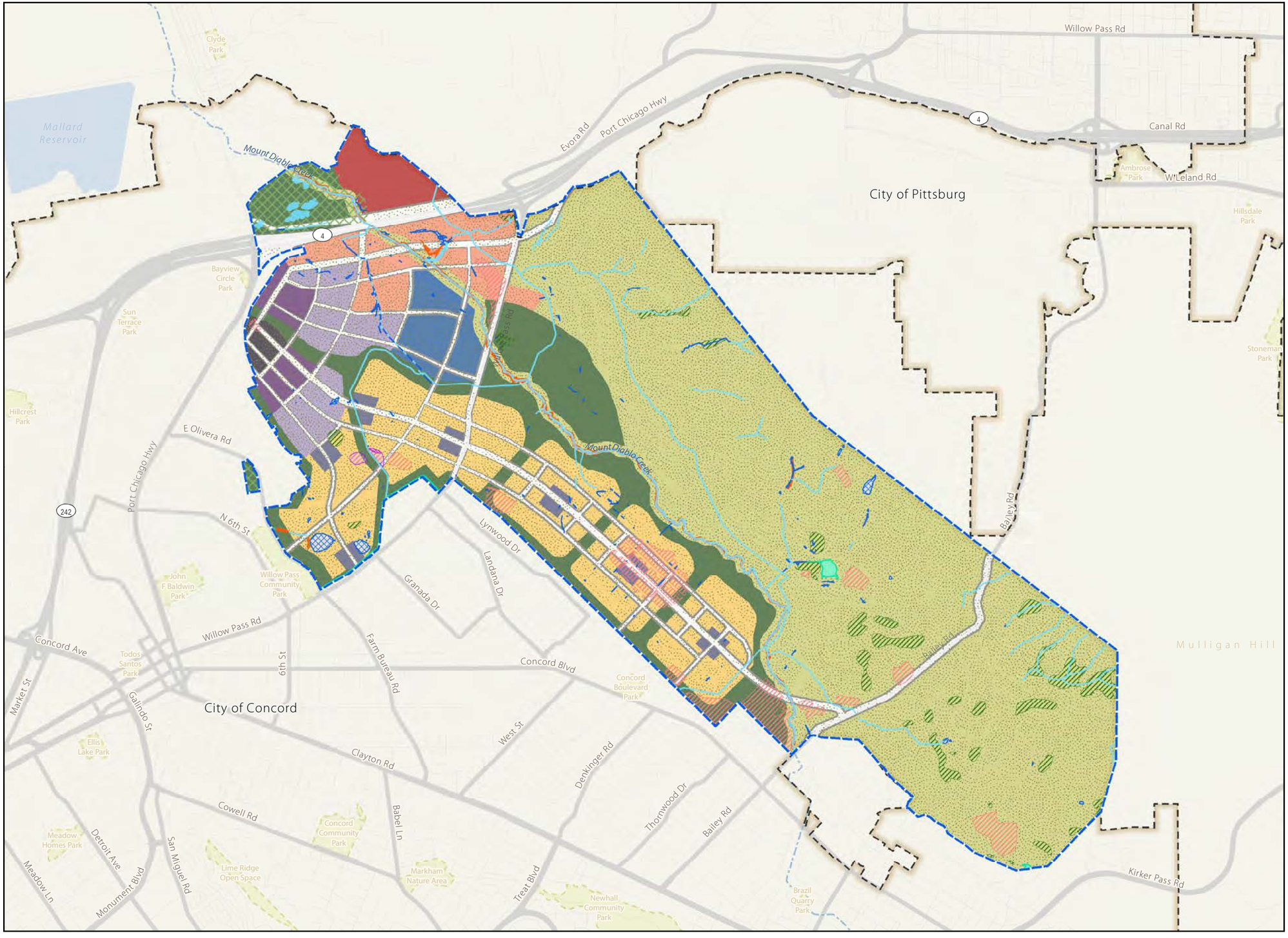
Based on the assumption that the entire area of the development districts would be disturbed, the calculations of disturbance under these assumptions are conservative: under either alternative, some areas within the development districts would be avoided during construction. However, precise construction footprints will not be known until specific development projects are proposed for the reuse site. For the purposes of the analysis in this EIS, impact acreages throughout this document are described as "up to" a certain amount of disturbance, depending on the resource under evaluation.

4.5.1.1 Vegetation Communities and Habitats

Implementation of Alternative 1 would necessitate permanent removal of the existing vegetation communities and associated habitats within portions of the installation to accommodate the reuse per the Area Plan and supporting infrastructure. The implementation of Alternative 1 would result in the development of approximately 2,243 acres, most of which is currently California annual grassland, resulting in 1,660 acres of impacted grasslands (Table 4.5-1); California annual grassland encompasses 82 percent of the entire former NWS. Table 4.5-1 identifies the vegetation communities and types of habitat that would be impacted by implementation of Alternative 1. These habitat impact acreages are areas where the development footprint overlaps these habitat types.

Approximately 2,715 acres of land at the former NWS Concord would be maintained as conservation/open space. Up to 5 percent of the land area for the conservation open space is assumed to be developed with such features as trails, picnic areas, and parking areas. However, the majority of this area is currently developed (68.5 acres), including building sites, roads, bunkers, and railroad tracks. Temporary indirect impacts on this area from temporary disturbance could occur during construction because this area is located next to areas that would be disturbed during construction. However, any temporarily disturbed vegetative areas designated as open space will be restored to their prior condition.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Vegetation_new_Alt_1.mxd



*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

Figure 4.5-1

Alternative 1 Redevelopment and Potential Vegetation Impacts

Former NWS Concord

Concord, California

Legend

- Former NWS Concord
- City Limits
- Roadways

Vegetation Communities

- Seasonal Wetlands
- Creeks / Drainages / Canals / Ponds
- California Annual Grassland
- Freshwater Marsh
- Coyote Brush / Coastal Sage Scrub
- Golf Course / Recreation
- Oak Woodland / Savannah
- Orchards and Plantations
- Riparian Woodland

***Alternative 1 Types of Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways and Citywide Parks
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

N

SCALE

0 0.5 1 Miles

SOURCE: City of Concord, 2010; H. T. Harvey & Associates, 2009.

This page intentionally left blank.

Table 4.5-1 Vegetation Communities and Habitat Impacts at the Former NWS Concord (Alternative 1)

Vegetation Communities/Habitats	Acreage of Impact
California Annual Grassland	1,660
Coyote Brush Scrub/Coastal Sage Scrub	5
Oak Woodland/Savannah	9
Riparian Woodland	5
Wetlands and Non-Wetland Waters[1]	6.93
Ruderal/Urban	352
Orchards and Plantations	113
Recreation (Golf Course)	86
Total[2]	**2,237**

[1] The City of Concord applied for a site-wide Section 404 Individual Permit, for unavoidable impacts to 4.5 acres of jurisdictional wetlands and 2.43 acres of other waters. The remaining vegetation community impacts are based on GIS data for the development districts, based on an assumption of full development within the district. For a detailed discussion of temporary and permanent impacts to wetland and proposed compensatory mitigation, see Section 4.14.1.2.

[2] Acreages are provided for planning purposes only and do not necessarily reflect the total acreage of the surplus property.

California Annual Grassland

Under Alternative 1, approximately 1,660 acres of California annual grassland would be removed during development (see Table 4.5-1). Development would affect grasslands in all development districts; the two largest areas of grasslands removal would take place in the Village Neighborhoods district (483 acres) and the Greenways, Citywide Parks, and Tournament Facilities district (433 acres). Implementation of Alternative 1 would affect terrestrial wildlife and could lead to habitat fragmentation in western Contra Costa County. Common wildlife that could be displaced include species such as the California ground squirrel and western fence lizard, California vole (*Microtus californicus*), and western harvest mouse (*Reithrodontomys megalotis*); additional discussion is provided in Section 4.5.1.2.

Implementation of Alternative 1 could also result in a reduction of remnant stands of native grasses in the conservation area and open space through the introduction of invasive and non-native species within the action area. The grasslands and riparian woodlands of the site already support many invasive species, and the Navy has implemented an invasive-species-control and weed management project for many years. Some of these species, which are listed on the California Invasive Plant Council watch list, could spread throughout the former NWS Concord during development. These invasive species could spread into other habitats, including wetlands and riparian woodlands and impair their functions and value as habitat by displacing or outcompeting native plant species. New or existing invasive or non-native plant species could be introduced to the site through construction disturbance, or existing populations of invasive species could spread to previously uncolonized areas. However, for the implementation of the Area Plan, the BO includes several conservation measures which call for the periodic removal or management of invasive plants in the riparian corridor of Mt. Diablo Creek (USFWS 2017). For other portions of the development districts where California annual grassland communities will be maintained, the City of Concord's General Plan (Policy POS-2.2.6) calls for the control of invasive plants within natural resource areas and general open space (City of Concord 2012). As such, future development would be required to include measures to prevent the spread of invasive plant species. For the Conservation/Open Space, which will be maintained by the EBRPD, the EBRPD Master Plan includes the use of Integrated Pest Management (IPM) practices to control non-native plant species under the Natural Resources Management guidelines (EBRPD 2013a). This will ensure that the planned construction activities and maintenance of development districts and Conservation/Open Space under the Area Plan will not promote the spread of invasive plant species. Therefore, the loss of 1,660 acres of grassland and the potential for spread of invasive plant species would be addressed during future development and would not be considered a significant impact at the former NWS Concord.

Coyote Brush Scrub/Coastal Sage Scrub

Under Alternative 1, the majority (95 percent, or 4.6 acres) of the coyote brush scrub/coastal sage scrub habitat onsite would be removed; approximately 0.5 acre would remain onsite. Most of this vegetation type (approximately 4 acres) would be removed from within the Village Neighborhood district, and approximately 0.5 acre would be removed from within the Greenways, Citywide Parks, and Tournament Facilities district. As this vegetation community is very limited on the site, it does not provide a large amount of suitable habitat for unique species, instead providing some structural habitat for species utilizing the extensive grasslands. Consequently, the loss of approximately 5 acres of this habitat would not be considered a significant impact at the former NWS Concord.

Oak Woodland/Savannah

The development of Alternative 1 would result in the permanent loss of approximately 9 acres of oak woodland/savannah (see Table 4.5-1). The majority of this loss would result from the development of the Village Neighborhood and the Greenways, Citywide Parks, and Tournament Facilities districts (which would cover 4 acres and 3 acres, respectively). This development accounts for the removal of approximately 8 percent of this vegetation community from the former NWS Concord. The remaining 92 percent (99 acres) would largely be retained in drainages downslope of the Los Medanos Hills, as well as portions of the conservation areas and open space in the southern portion of the installation (see Figure 3.5-1). The oak woodland/savannahs represent unique habitat among the extensive grasslands onsite, providing habitat for tree-cavity nesters as well as arboreal species.

In addition to providing unique habitat for wildlife, some of the mature trees in the oak woodland/savannah habitat type may meet the criteria for the City of Concord Heritage Tree Ordinance. This ordinance states that the preservation of trees is necessary for the health and welfare of the citizens of the city to preserve scenic beauty, prevent erosion of topsoil, protect against flood hazards, counteract air pollutants, and maintain the climatic and ecological balance of the area. Some of these trees could be removed, trimmed, or otherwise affected by construction-related activities (such as trenching within or adjacent to the ground immediately beneath the crown of the tree canopy) under Alternative 1. However, future development would be required to comply with policies of the City of Concord's General Plan (City of Concord 2012), including Policy POS-3.4.3 (which states, "Retain significant vegetation, including native vegetation and heritage trees, where feasible, and require replacement plantings as appropriate for mitigation"). In addition, future development would be required to carry out the Area Plan mitigation measures, which include measures addressing compliance with the city's Heritage Tree Ordinance and the preparation of oak protection plans and tree replacement and planting plans, and require the appropriate compensatory mitigation of trees that would be removed from within this habitat.

Given that the majority of this vegetation community will remain onsite within the conservation areas and that future development would be required to comply with the General Plan (including the Area Plan), the loss of 9 acres of this habitat type at the former NWS Concord is not considered significant.

Riparian Woodlands

Under Alternative 1, approximately 5 acres of riparian woodland (15 percent of the available habitats on the former NWS Concord) would be removed (see Table 4.5-1). The proposed development would affect riparian woodlands in the Commercial Flex, Village Neighborhood, and Greenways, Citywide Parks, and Tournament Facilities districts. The majority of the removal would be associated with the development of roadways and with the creation of the Commercial Flex district, which would remove the majority of the riparian woodlands along Willow Pass Creek. Development would take place on both sides of Mt. Diablo Creek in some areas, thereby creating the need for stream crossings to allow pedestrian, vehicle, or utility crossings of the creek. Under Alternative 1, seven bridge crossings of Mt. Diablo Creek as well as several Class I trail crossings would be installed, resulting in the loss of riparian woodlands within the footprints

of these bridges and crossings. This analysis assumes that future development would include the placement of materials (e.g., pilings, culverts, or other support structures) within riparian habitats associated with the creek. As discussed previously, it is also possible that portions of Mt. Diablo Creek may need to be reconfigured for flood-control or restoration purposes. Additional restoration and preservation activities for Mt. Diablo Creek are included as conservation measures in the BO (USFWS 2017).

Riparian woodlands are typically biologically diverse habitats because the year-round presence of water enables vegetation and aquatic biota to thrive, thus supporting a greater variety of flora and fauna. These areas are regulated by the state under California Fish and Game Code (Sections 1600-1603) for any alteration to the bed, channel, or banks of streams that support fish and wildlife resources. For the permanent loss of portions of Willow Pass Creek and the adjoining riparian woodlands, impacts would be mitigated through the CWA Section 401/404 permitting process; additional discussion is provided in Section 4.14 (Water Resources). The riparian woodlands on the site have been degraded by grazing, stream incision, bank erosion, and other factors, but these habitats continue to support many wildlife species and provide unique habitats. Alternative 1 includes streambank restoration measures, as well as the establishment of a 300-foot riparian buffer, which could lead to an increase in the size of existing riparian woodland communities and the overall improvement of their function onsite.

Given that the majority of this vegetation community will remain onsite, impacts on this community would be mitigated, and the conservation areas could include an expansion of this habitat type under the implementation of Alternative 1, the loss of 5 acres of this habitat type at the former NWS Concord is not considered significant.

Wetlands and Non-wetlands Waters

The City of Concord applied for a site-wide Section 404 Individual Permit, for unavoidable impacts to 6.93 acres of jurisdictional wetlands and Waters of the U.S. While the remaining 8.5 acres of jurisdictional and non-jurisdictional wetlands and non-wetland waters are within the development footprint used for planning purposes; these wetland and non-wetland areas will be avoided when site specific planning is conducted. For a complete discussion of temporary and permanent impacts to wetlands, and proposed compensatory mitigation, see Section 4.14.1.2.

The majority of these wetlands within the former NWS Concord have been categorized into freshwater marsh, seeps and springs, and seasonal wetlands, whereas non-wetland waters include creeks, drainages, canals, and ponds. According to technical reports prepared for the 2010 FEIR (City of Concord 2010), the majority of the wetlands that would be affected by Alternative 1 are located in historically and currently grazed rangeland. Such moderate levels of livestock grazing have limited the functions and values of wetlands on the former NWS Concord site below their full potential to some extent. However, the wetlands within the former NWS Concord serve as foraging habitat for some waterbirds, watering areas for mammals, and moist refugia and foraging areas for amphibians. Wetlands that pool water for a sufficient period also provide breeding habitat for amphibians.

All of the development districts except for the North Concord TOD Core and TOD Neighborhoods would result in some loss of freshwater marsh, seasonal wetlands, or creeks, drainages, canals, and ponds. Loss of wetlands could occur through the permanent or temporary placement of fill, construction of stream or wetlands crossings, alterations of drainage, and other construction activities. Possible future restoration or construction near or within Mt. Diablo Creek for flood-control purposes could also result in the loss of aquatic habitat or channel habitat within the bed and banks of the creek.

During the future development, wetland impacts will be minimized to the maximum extent practicable through the final design and permitting process, as required by Section 404(b)(1) of the CWA, and as

described in the existing USACE Public Notice (USACE 2016). As part of this process, future developers will be required to avoid, minimize, and/or mitigate any permanent impacts on wetlands or Waters of the U.S. in accordance with the City of Concord's site-wide Section 404 Individual Permit. If the City of Concord does not secure a site-wide Section 404 Individual Permit, future property owners or developers would be responsible for identifying the need for and securing any necessary permits for impacts on fill waters of the U.S.

A more detailed discussion of impacts on wetlands and surface waters is provided in Section 4.14, Water Resources. Potential impacts on wetlands and non-wetland waters would not be significant because future project proponents would be required to avoid, minimize, and/or compensate for all impacts on wetlands and non-wetland waters at the former NWS Concord.

Ruderal/Urban

Under Alternative 1, the majority of the ruderal habitat type, 352 acres (73 percent), would be permanently removed. Ruderal habitat would be removed from within all the development districts, with the majority being removed within the Village Neighborhood and First Responder Training Center development districts. Approximately 484 acres (10 percent of the site) are developed with urban and industrial areas, including roadways, parking lots, runways, railroad yards, and asphalt aprons surrounding buildings. Such areas often contain patches of ruderal vegetation as well as landscaped trees and shrubs. Ruderal vegetation also exists on the roofs of bunkers, which are covered with soil and provide some grassland habitat. As much of the ruderal habitat is within existing developed areas and the associated maintained landscaped vegetation communities on the former NWS Concord, the loss of 352 acres of ruderal habitat would not be significant This vegetation community is not considered a significant wildlife habitat, and is not protected under any federal or state regulatory authority. In addition, these habitats are not particularly valuable to wildlife because ruderal habitats are frequently dominated by hardscape and other developed features, and those onsite are dominated by non-native vegetation.

Orchards and Plantations

Under Alternative 1, approximately 113 acres of orchards and plantations would be removed (Table 4.5-1). The majority of this habitat removal would take place within the Greenways, Citywide Parks, and Tournament Facilities and Village Neighborhoods development districts. Although these vegetation communities provide suitable habitat for a range of wildlife, including common reptiles and mammals, as well as a number of bird species, including large raptors and a variety of passerines, including the white-tailed kite, these communities are not native, and are not protected under any federal or state regulatory authority. In addition, approximately 43 acres (27 percent) of this habitat type would remain onsite.
Therefore, the loss of 113 acres of orchards and plantations at the former NWS Concord would not be considered a significant impact.

Overall, construction and operation of Alternative 1 would not result in significant impacts on vegetation communities and habitats.

4.5.1.2 Fish and Wildlife

Implementation of Alternative 1 would cause both short- and long-term impacts on resident fish and wildlife populations. Long-term impacts could include species mortality and would include permanent habitat loss, as well as habitat fragmentation of a number of vegetation communities and habitat types as described in Section 4.5.1.1. Short-term effects could include those impacts associated with temporary disturbance during construction. Mortality of less-mobile species such as small mammals and/or reptiles and amphibians would be possible during construction; however, overall impacts on species diversity and abundance on the former NWS Concord from construction activities would be minor because the

conservation/open space area that would encompass approximately 2,715 acres would provide habitat for wildlife. Consequently, no significant impacts on fish or wildlife populations would occur.

Implementation of Alternative 1 would result in the permanent removal of extensive areas of relatively common and widespread habitats (e.g., California annual grassland) and the development of urban and suburban uses. This removal of habitat would result in changes in the abundance of wildlife species that currently use these habitats within the former NWS Concord. Table 4.5-1, above, lists the acreage of displacement for existing habitats that could potentially be impacted under Alternative 1. Although the total acreage of these impacts is large, the habitats themselves are common and widespread in the region.

Under Alternative 1 and within the Conservation/Open Space, extensive grasslands, oak woodland/savannah, and other more sensitive habitats would be preserved in open space areas. The overall loss of these habitats in other development districts on the former NWS Concord would have only a small effect on the regional availability of these vegetation types. As a result, for most wildlife species associated with these common habitats, the loss of these habitats will not result in significant impacts.

Wildlife that use these habitats within the development footprint on the former NWS Concord would be forced to migrate to other areas with suitable habitat. Small mammals and reptiles would be most affected, and some individuals of these species may be impacted if unoccupied habitat of equal quality is not available in the immediate vicinity. In addition to habitat loss, wildlife species may be temporarily displaced in peripheral areas during construction, when noise and human activity levels increase. Species that would be most affected include those with relatively small home ranges. During construction, short-term impacts may include displacement of mobile species such as the striped skunk or the coyote (*Canis latrans*). Currently, wildlife movements are limited by tall fencing topped by barbed wire surrounding the majority of the site, which presents an impediment to movement of larger animals onto the site. Such fencing is present around the perimeter of the site, including the areas where the site borders Bailey Road, Willow Pass Road, and SR 4. The fencing is also found in several areas within the interior of the former NWS Concord. In these locations, large animals can pass through these fences only where there are gaps under or within the fences, at gates, or in the grating where the perimeter fence crosses Mt. Diablo Creek at Bailey Road. In general, the fencing presents a constraint for large wildlife movement through the site. Under Alternative 1, portions of the existing fence would be removed from the former NWS Concord, based on consultations with the USFWS and CDFW, to provide habitat enhancements for listed species, and alleviate existing constraints for wildlife movement into the future conservation area.

Upon completion of construction, recolonization by species of small mammals, reptiles, and birds adapted to urban conditions would be expected within many parts of the developed footprint. While permanent removal of habitat would directly affect wildlife communities not adapted to urban conditions, these species would continue to populate undeveloped portions of the site in the conservation/open space area. In addition, large tracts of undeveloped land to the east and south of the former NWS Concord would provide additional refugia for displaced wildlife. Overall impacts on species diversity and abundance on the former NWS Concord from construction activities would be minor because the majority of these species would avoid areas of construction where equipment and human activities create disturbance.

Implementation of Alternative 1 could result in temporary and permanent, significant adverse impacts on nesting birds from development-related construction disturbance and direct removal of nests during the breeding season and through loss or mortality of young. The loss of habitat on the former NWS Concord under Alternative 1 would also result in the loss of nesting areas for breeding birds and stopover areas for migrating bird species. However, the preservation of the conservation/open space area and the restoration of riparian areas and creation of a 300-foot buffer along Mt. Diablo Creek would lead to some improvements in overall nesting habitat and long-term opportunities for the management and preservation

of migratory bird habitat. In addition, measures adopted in the city's Area Plan would address impacts on nesting birds during construction.

Alternative 1 could also result in the introduction of non-native wildlife species as a result of development. Humans may intentionally introduce (e.g., as a result of release of pets that are no longer wanted or for other reasons) species such as bullfrogs, crayfish, or non-native fish to aquatic habitats on the former NWS Concord. These non-native species prey upon the larvae of sensitive species such as the California red-legged frog and the California tiger salamander, and adult bullfrogs, in particular, may outcompete and displace adults of these sensitive species. Other invasive or non-native plant species could be introduced to the site during construction or as the area becomes developed and landscaped. Introduction could be through deliberate plantings or associated with increased population and inhabitants of the site that may inadvertently transport non-native species to the area. The presence of these species within the site could significantly affect native special-status species and sensitive vegetation communities. Although habitats within the former NWS Concord already contain invasive species, additional invasive species could be introduced to the area through construction, development, and human use.

The implementation of Alternative 1 would result in an overall loss of stream and wetland habitats on the site, including the filling in of 2,013 feet of Willow Pass Creek, which would be filled in to facilitate the development of the Commercial Flex district. This loss of aquatic habitat would permanently displace any aquatic biota from the creek, although, in general, limited fisheries habitat is available in the creek, except during high flows when species may migrate from Mt. Diablo Creek into Willow Pass Creek. No sensitive species have been reported to have been observed in this creek, and both creeks contain minimal water during the summer. Upstream movement of fish is currently blocked by an East Bay Municipal Utility District (EBMUD) utility-related berm in Mt. Diablo Creek, except during high-flow events. Upstream-migrating fish may be able to bypass the berm only during very high flows. As specified in the 2010 FEIR, fish movement through the segment of Mt. Diablo Creek within the former NWS Concord is also constrained by 11 culverts. Long-term benefits to fisheries resources will occur as a result of the restoration of Mt. Diablo Creek and the creation of a 300-foot riparian buffer, which should stabilize stream banks, thereby reducing erosion and sedimentation. In addition, the development of a functional riparian zone should also increase the shading of the stream channel, reducing stream temperatures and improving water quality through the reduction of point- and non-point-source pollutant loading into the stream channel. With the long-term improvements to aquatic habitat of Mt. Diablo Creek and the preservation of waterbodies within the conservation/open space area, expected loss of aquatic habitat and displacement or mortality of existing aquatic biota at the former NWS Concord is not expected to be significant.

In summary, Alternative 1 would result in adverse impacts on existing fish and wildlife resources and their habitats. With the implementation of minimization and mitigation measures in the Area Plan, and through its planning and development review process, the city will ensure that future development plans address adverse impacts on fish and wildlife species such that impacts would be avoided, minimized, or adequately mitigated. Specifically for nesting birds, compliance with the MBTA and California Fish and Game Code Section 3513 will ensure that any adverse impacts are minimized. In addition, any state sensitive species, such as those listed as threatened or endangered or fully protected, would be protected under existing California Fish and Game codes.

Therefore, construction and operation of Alternative 1 would not result in significant impacts on fish and wildlife resources.

4.5.1.3 Special Status Species

The disposal of the former NWS Concord would have no effect on federally listed species, and it would not result in the destruction or adverse modification of designated critical habitat. However, the subsequent reuse of the property through implementation of Alternative 1 would be an interrelated action that "may affect and is likely to adversely affect" the California red-legged frog, the California tiger salamander, and the Alameda whipsnake. Therefore, the Navy has joined in consultation with USACE under Section 7 of the ESA (Navy June 2013). The USACE also informally consulted with the National Marine Fisheries Service (NMFS) regarding issuance of a Section 404 permit for the Area Plan, and the NMFS concurred that the proposed action would have no effect on the Central California Coast steelhead and its designated critical habitat because the steelhead is not located in Mt. Diablo Creek, and Mt. Diablo Creek is not designated as critical habitat (Stern 2014).

Through the formal ESA consultation process, the USFWS issued a BO and ITS on May 30, 2017, which includes conservation measures and terms and conditions to ensure that these adverse effects will not jeopardize the continued existence of any federally listed species (see Appendix I). Agency correspondence regarding Section 7 of the ESA is presented in Appendix A.

Species-specific effects, as well as the species-specific ITS, are discussed below. The conservation measures address impacts on all listed species (California red-legged frog, California tiger salamander, and Alameda whipsnake) and are presented below. Conservation measures address activities: prior to, during, and following construction activities to ensure that no adverse impacts will jeopardize the continued existence of any of these species. There are 14 conservation measures, which are generally summarized here and provided in full in the BO in Appendix I:

1. **Conditions of Transfer** – the initial transfer of the Conservation Area and Open Space (PBC) area to the EBRPD occurs prior to construction or demolition activities.
2. **Interim Land Management** – this conservation measures requires the Navy, City of Concord, and EBRPD to maintain the property through control of invasive species, maintenance of appropriate grass heights for listed species, access control, and provision of maintenance repairs to upland or aquatic habitats throughout the development of the Area Plan.
3. **City Implementation and Oversight of the Conservation Measures** – requires the city to ensure implementation of these conservation measures.
4. **Long-term Preservation and Management of the EBRPD PBC Area and City Conservation Lands** – ensures that the on-site conservation lands will be preserved and managed in perpetuity.
5. **City Conservation Enhancements in EBRPD PBC Area** – the city will fund and implement enhancements of habitat for listed species in the EBRPD PBC area through a Habitat Mitigation and Monitoring Plan (HMMP) approved by the USFWS.
6. **Off-site Habitat Conservation** – the city or future developers will provide for off-site habitat conservation to offset impacts on listed species during development within the species' habitats. The conservation ratio will be set at a 2:1 replacement, including both on-site and off-site conservation acreages.
7. **Mt. Diablo Creek Riparian Corridor Restoration** – the city will restore and enhance riparian habitat in conjunction with implementing flood management and bank stabilization measures along the riparian corridors and prepare a Riparian Habitat Enhancement and Management Plan for review and approval by the USFWS.

8. **Conservation Measures and Siting Guidelines for Educational Displays, Recreation Facilities, and Park Operation Facilities in the Regional Park (EBPRD PBC area)** – these measures require EBRPD to incorporate certain design measures into the park facilities to avoid and minimize adverse impacts on listed species.
9. **Construction-related Avoidance and Minimization Measures for all City, EBRPD, and First Responder Training Facility Activities** – this measure includes a phased approach to development and specifies avoidance and minimization measures to limit adverse impacts on listed species.
10. **Outfalls** – if stormwater outfalls to Mt. Diablo Creek are required, the designs will need to be reviewed and approved by the USFWS to ensure coverage under the existing BO.
11. **Annual Reporting** – the city will provide the USFWS with an annual report on activities until the Area Plan is fully implemented.
12. **Public Outreach Measures** – within the development districts, the city will install signage and distribute public information pamphlets educating residents on best practices to limit disturbance of listed species.
13. **Lighting Measures** – all lighting that is installed throughout the Area Plan will comply with specific measures to limit adverse impacts on wildlife.
14. **Conservation Measure Modifications** – Because of the extended period of time covered within the BO, the Navy, the city, or the EBRPD may request minor modifications to these conservation measures to be approved by USFWS.

The ITS includes several terms and conditions to ensure that all conservation measures will be fully implemented and adhered to during the project development period. In order to ensure this reasonable and prudent measure is implemented, the Navy and the USACE must ensure compliance with the following:

1. The Navy, the City of Concord, and the EBRPD shall reduce take of listed species by implementing the conservation measures, as described above.
2. The Navy will ensure the City of Concord complies with the conditions of transfer (Conservation Measure 1), and the Navy will provide documentation of each parcel transfer, as described in the BO, to the USFWS within five business days of parcel transfer.
3. The USACE shall include the applicant's implementation of and adherence to the conservation measures listed in the BO as a condition of any USACE permit issued for the project [i.e., specific development plan].
4. If requested, the Navy, USACE, City of Concord, or EBRPD shall ensure that the USFWS or authorized agent can examine the action area for compliance with the conservation measures and terms and conditions of the BO before, during, or after completion of the Area Plan.

The BO also includes monitoring requirements for the Navy and the USACE to ensure that the amount or extent of incidental take defined in the BO is not exceeded. Conservation measures 9 and 11 include reporting requirements by the City of Concord to the USFWS, which will serve to provide monitoring information, including incidental take. Any incidental take of listed species in the form of death or injury will be reported to the City LRA, and the City LRA will track the take of individuals. Any take of listed species will be reported to the USFWS within five days of the take and include a summary of cumulative

take of individuals to date. In addition, the Navy, the USACE, the City of Concord, and the EBRPD will report any sightings of listed species to the USFWS and the CDFW's CNDDB.

The California red-legged frog and the California tiger salamander have documented breeding populations on the former NWS Concord and are present there throughout the year. The Alameda whipsnake has not been documented on the site during historic surveys (Ecology & Environment and Swaim Biological 2009), but suitable habitat does exist for the species in the southeast part of the site. No proposed or designated critical habitat for any of these species is present on the site; thus, the proposed action would not result in an adverse modification of any critical habitat. The following impact assessment describes impacts on these, as well as other, special status species.

California Red-Legged Frog (Federally Threatened)

Implementation of Alternative 1 could result in potential direct and indirect effects to the federally listed California red-legged frog and its habitat. These adverse impacts would include permanent loss of non-breeding aquatic and dispersal habitat, direct mortality or injury during construction activities, and increased mortality or harassment of individuals by humans or domestic pets during operation of the proposed reuse on the site. However, all of the documented breeding habitat on the site and the majority of the documented upland and dispersal habitats (e.g., Mt. Diablo Creek) would not be disturbed during construction. In addition, following construction, the Mt. Diablo Creek corridor would include the designation and preservation of a 300-foot wide riparian corridor. This restoration and preservation of an expanded riparian zone along Mt. Diablo Creek would improve the overall dispersal and non-breeding habitat on the site. The permanent loss of habitat and the potential for take or harassment are significant impacts that are discussed in greater detail below.

USFWS (2006) has determined that the following four habitat types are most critical to the survival and conservation of California red-legged frog: aquatic breeding habitat, non-breeding aquatic habitat, upland habitat, and dispersal habitat. No impacts on California red-legged frog aquatic breeding habitat are expected because all of the documented breeding locations are located in the conservation/open space area and will not be disturbed during the implementation of Alternative 1. California red-legged frog tadpoles were introduced into Cistern Pond within the site in 1982 by CDFW (then CDFG) and have expanded their breeding range since then to include Cistern Pond, upper Cistern Pond, 5AT-1 freshwater marsh, Rattlesnake Canyon, 5AT-2 pond and freshwater marsh, and the Indian Springs ponds. At least 17 egg masses were observed during surveys in 2009, which indicates a high population density of the California red-legged frog at Cistern Pond (City of Concord 2013c). Two other locations within the reuse area that include low quality, questionable breeding habitat include the ponds within the Diablo Creek Golf Course and the freshwater marsh and seasonal pools near the old airfield. Both of these locations are not expected to provide suitable breeding habitat, as the golf course ponds contain many predators (e.g. bullfrogs) and the seasonal pools in the former airfield may contain crayfish, which are known predators on California red-legged frog and have contributed to the decline of this species (USFWS 2002). Due to the absence of suitable breeding pools, Mt. Diablo Creek also does not provide suitable breeding habitat (City of Concord 2013c). Therefore, no direct impacts on suitable breeding habitat are expected as a result of the implementation of Alternative 1.

Direct impacts on non-breeding aquatic habitat, upland, and dispersal habitats would occur under Alternative 1. The City of Concord's BA (City of Concord 2013c) estimated that the total impact on potential California red-legged frog habitat under this alternative would include the entire development footprint, or up to 2,315 acres, based upon the Navy's GIS database. This estimate was based upon the California red-legged frog's ability to widely disperse from suitable breeding habitat. The non-breeding aquatic habitats and adjacent upland/dispersal habitats within the development footprint include the golf course ponds and the seasonal wetlands near the former airfield that could provide suitable perennial aquatic habitat during the non-breeding season. Some of these areas would be removed as a result of the

development of the Central Neighborhoods, Campus, Greenways and Citywide Parks, and Village Neighborhood development districts, although the city has agreed to avoid impacts to the largest wetland in the old airfield area (USACE 2016). In addition, temporary impacts on the riparian woodlands along the Mt. Diablo Creek corridor during the construction of stream restoration or flood-control activities or the construction of trails, picnic areas, or parking areas in the conservation/open space area could also result in direct impacts on this species; these impacts would be temporary because future uses would preserve these areas in an undeveloped condition, ensuring that dispersal habitat between Mt. Diablo Creek and the breeding locations to the east would remain undeveloped and retained as open space.

Direct mortality could occur to individuals during construction activities within the proposed development area. Grading activities could directly crush individuals or trap and suffocate individuals during construction in the upland or wetlands areas within the proposed development districts. The primary areas for impacts are associated within the proposed 300-foot-wide riparian corridor along Mt. Diablo Creek. Construction activities within this area could include grading of riparian areas for streambank restoration activities or future flood control measures. In addition, the creation of recreational trails, picnic areas, and parking areas within the conservation/open space area could directly affect individuals. The potential for spills of contaminants associated with construction equipment could also result in harm to individuals.

Alternative 1 would involve the removal of up to 2,315 acres of suitable California red-legged frog habitat and could result in the direct mortality or harassment of individuals, as well as short- and long-term indirect effects. Direct effects through harassment or mortality could also result from increased human activity in California red-legged frog habitats during operation of the development districts under Alternative 1. For example, the construction of new roadways and trails would increase traffic and recreational use. USFWS considers heavily traveled roads without bridges or culverts to be a barrier to dispersal for the California red-legged frog (USFWS 2006). These actions could increase California red-legged frog mortality due to vehicles, alteration of hydrology and water quality, potential introduction of predatory non-native species, increased nighttime lighting, and increased harassment by humans and domestic animals. Indirect impacts could occur as a result of the introductions of predatory non-native fish, amphibians, and/or crustaceans in occupied California red-legged frog habitat or the potential degradation of water quality resulting from unregulated discharge of contaminants or sediment from development and alteration of hydrology in aquatic habitats. Any of these effects could be considered significant.

The BO includes the ITS, which provides an estimate of take for each of the listed species, including the California red-legged frog. The USFWS indicated that the incidental take of the California red-legged frog will be difficult to monitor and quantify, due to the small body size of the species and the secretive habits of the species in a range of vegetated habitats. During the breeding season, they are likely within or in the vicinity of breeding ponds, but at other times of the year, they could be in a range of adjoining upland habitats. As this species has a cryptic behavior and appearance, it would be difficult to detect or quantify any mortalities, even if a deceased individual is observed.

For the purposes of quantifying take, the USFWS assumed that all individuals within 2,558 acres of the EDC area would be subject to take over the 35-year build-out period. This equated to the following authorized take estimates, pursuant to the BO:

- 20 dead or injured individuals (take) over the 35-year project-related development period;
- 1 individual take per year as a result of project-related development, operation, or use of recreational facilities; and

- 5 individual takes per year (four-year moving average) as a result of habitat restoration/enhancement or habitat management activities within the EBRPD PBC area.

Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant, as appropriate. Furthermore, conservation measures included in the BO and associated ITS for the City of Concord's site-wide Section 404 permit for the Concord Area Plan address these impacts and include avoidance and minimization measures to limit the direct and indirect effects to the California red-legged frog. If the city does not obtain a site-wide Section 404 Individual Permit for impacts on wetlands and Waters of the U.S., then the future property owners or developers would be responsible for securing any necessary permits to avoid or minimize impacts on California red-legged frog habitat. In addition, and as described in the city's Area Plan (Mitigation Monitoring and Reporting Program, Mitigation Measure Biological Resources 5), impacts on California red-legged frog habitats will be mitigated to avoid long-term impacts.

In summary, the concepts described above would ensure that impacts on the California red-legged frog and its habitats would be avoided and minimized during the implementation of Alternative 1. Any long-term impacts would be minimized through the implementation and adherence to the conservation measures in the BO, as stated above. These conservation measures provide for long-term coordination between the USFWS and the city, EBRPD, and the Navy, as necessary, so that the Area Plan will be implemented to ensure the protection and conservation of the California red-legged frog and its habitat. Consequently, the Navy has determined that with adherence to conservation measures stated in the BO, impacts on the federally threatened California red-legged frog would not be significant at the former NWS Concord.

California Tiger Salamander (Federally Threatened)

Implementation of Alternative 1 could result in potential direct and indirect effects to the federally listed California tiger salamander and its habitat. These adverse impacts would include permanent loss of breeding, dispersal, and upland habitats; direct mortality or injury during construction activities, and increased mortality or harassment of individuals by humans or domestic pets after construction is completed. However, the majority of the documented breeding habitat on the site and the majority of the documented upland and dispersal habitats (e.g., conservation/open space area) would not be disturbed during construction. The permanent loss of habitat and the potential for take or harassment are significant impacts that are discussed in greater detail below.

The implementation of Alternative 1 would result in the removal of historic breeding, dispersal, and upland habitat in the Bunker City area of the former NWS Concord. California tiger salamanders predominately breed in the southeastern portion of the site in a number of seasonal pools or small ponds. The documented breeding locations include: the Cistern Ponds, Rock Quarry Pond, 5AT-1 ponds and adjoining wetlands, 5AT-2 pond, Rattlesnake Canyon pond, lower Indian Springs ponds, north and south Hilltop ponds, and some additional seasonal pools in the conservation/open space area. However, there is also a recorded observation of larval California tiger salamanders in a seasonal pool in a ditch in the Bunker City area (City of Concord 2013c), within what would be the Village Center development district. This area was surveyed in the late 2000s as well as more recently in 2011 by H. T. Harvey and Associates, and no documented breeding was found. In fact, this area did not support suitable hydrology during 2011, a year with above-average rainfall during the breeding season.

The City of Concord's BA summarized a total of up to 957 acres of direct California tiger salamander habitat impacts that would result from implementation of the Area Plan; this estimate included approximately 19 acres of high- quality habitat, 119 acres of medium-quality habitat, and 819 acres of low-quality habitat. Based on the Navy's GIS data, the total direct impacts would be of up to 982 acres of

California tiger salamander habitat; these discrepancies are based on minor differences between the GIS datasets used for the BA and this analysis. The tiger salamander habitat estimates were based on the EDAW (2008) study of the suitability of upland habitat at the former NWS Concord. This study found that the vast majority of high-quality/high-use habitat was located east of Mt. Diablo Creek, with the majority located in the southeastern portion of the site. The northeast, northwest, and Bunker City portions of the site were determined to be low-quality habitat based on the lack of burrows and breeding habitat, and the presence of a likely migration barrier (Mt. Diablo Creek). However, based on the historic occurrence in the Bunker City area, construction and operation of the Village Center development district in this area would result in a loss of historical breeding habitat, as well as surrounding dispersal and upland habitat.

Alternative 1 will involve the removal of up to 957 to 982 acres of California tiger salamander habitat and could result in the direct mortality or harassment of individuals, as well as short- and long-term indirect effects. Direct mortality could occur to individuals during construction activities within the proposed reuse area. Grading activities could directly crush or trap individuals that are in an aestivation state within underground burrows. As the majority of the high- and medium-quality California tiger salamander habitat is located within the conservation/open space area, the primary period of direct mortality would be during the construction of recreational trails, picnic areas, and parking areas within the conservation/open space area. In addition, the potential for spills of contaminants from construction equipment could result in harm to individuals.

Direct effects through harassment or mortality could also result from increased human activity in California tiger salamander habitats during operation of the development districts under Alternative 1. The construction of roads and exclusion fencing may prevent California tiger salamanders from dispersing between breeding and upland habitat. California tiger salamanders will readily attempt to cross roads during migration, and roads that sustain heavy traffic may act as barriers and have negatively affected California tiger salamander populations in some areas (Shaffer and Fisher 1991, Shaffer and Stanley 1992, Barry and Shaffer 1994). In addition, vehicular mortalities have been described as a primary threat to California tiger salamander populations in some areas (Barry and Shaffer 1994, Jennings and Hayes 1994).

The BO includes the ITS, which provides an estimate of take for each of the listed species, including the California tiger salamander. The USFWS indicated that the incidental take of the California tiger salamander will be difficult to monitor and quantify, due to the small body size of the species and the secretive habits of the species in a range of vegetated habitats, including subterranean environments. During the breeding season, they are likely within or in the vicinity of breeding ponds, but at other times of the year, they could be in a range of adjoining upland or subsurface environments. As this species has a cryptic behavior and appearance, it would be difficult to detect or quantify any mortalities, even if a deceased individual is observed.

For the purposes of quantifying take, the USFWS assumed that all individuals within 2,558 acres of the EDC area would be subject to take over the 35-year build-out period. This equated to the following authorized take estimates, pursuant to the BO:

- 10 dead or injured individuals (take) over the 35-year project-related development period;
- 1 individual take per year as a result of project-related development, operation, or use of recreational facilities; and
- 5 individual takes per year (four-year moving average) as a result of habitat restoration/enhancement or habitat management activities within the EBRPD PBC area.

As stated in the BO conservation measures (see California red-legged frog subsection), prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant, as specified in the conservation measures of the BO. These conservation measures will address activities that could result in adverse impacts and include avoidance and minimization measures to limit the direct and indirect effects on the California tiger salamander and its habitat. If the city does not obtain a site-wide Section 404 Individual Permit, then the future property owners or developers would need to secure any necessary permits to avoid or minimize impacts on wetlands and Waters of the U.S., including California tiger salamander habitat. In addition, and as described in the city's Area Plan (Mitigation Monitoring and Reporting Program, Mitigation Measure Biological Resources 6), any permanent impacts on California tiger salamander habitats will be mitigated, as described in the BO – see Appendix I) to avoid long-term population-level impacts.

In summary, the concepts described above would ensure that impacts on California tiger salamander and their habitats would be avoided and minimized. Any long-term impacts would be minimized through the conservation measures stated in the BO. Consequently, the Navy has determined that impacts on the federally threatened California tiger salamander would not be significant at the former NWS Concord.

Alameda Whipsnake (Federally Threatened)

Implementation of Alternative 1 could result in minor, permanent, or temporary adverse impacts on the federally listed Alameda whipsnake or its habitat. The Alameda whipsnake has not been previously documented on the site. Based on past surveys, the only locations of suitable habitat exist in small patches of sage scrub in the upper Rattlesnake Canyon area and the grasslands with rock outcrops in the areas southeast and just northwest of Bailey Road. As these locations will be located within the conservation/open space area, adverse impacts are expected to be limited.

Alternative 1 could result in permanent adverse impacts on Alameda whipsnake habitat through the development of recreational trails or picnic areas within suitable habitat of the conservation area. This impact is expected to be minor, as recreational trails or picnic facilities would not destroy large amounts of habitat (less than 5 percent of the total conservation area), and the surrounding areas would remain intact and continue to provide suitable habitat for this species. The use of construction equipment within these areas could result in direct mortality if individuals are physically crushed during grading activities, or trapped within underground spaces during site preparation. In addition, post-development recreational use could adversely impact this species through human use or disturbance by domestic animals. However, these impacts are also considered minor because no Alameda whipsnakes have been documented on the site and the overall development footprint within this area would be extremely small compared to the surrounding habitats that would remain undisturbed.

The BO includes the ITS, which provides an estimate of take for each of the listed species, including the Alameda whipsnake. The USFWS indicated that the incidental take of the Alameda whipsnake will be difficult to monitor and quantify, due to the small body size and large home range of the species.

For the purposes of quantifying take, the USFWS assumed that all individuals within 887 acres of the EDC area would be subject to take over the 35-year buildout period. This equated to the following authorized take estimates, pursuant to the BO:

- 1 individual take (death or injury) as a result of project-related development, operation, or use of recreational facilities or as a result of habitat management or restoration/enhancement activities.

Alternative 1 would involve minor disturbance to suitable Alameda whipsnake habitat during implementation of Alternative 1. In addition, there is a slight potential for individuals to be killed or harassed during construction or future recreational activities during the operation of the site. However, the conservation measures provided in the BO (see California red-legged frog subsection) include measures to minimize the potential for adverse impacts on individual species as well as suitable habitat. These measures would minimize the potential for long-term impacts on the Alameda whipsnake associated with the implementation of Alternative 1. Consequently, the Navy has determined that impacts on the federally threatened Alameda whipsnake would not be significant at the former NWS Concord.

Bald Eagle and Golden Eagle

Implementation of Alternative 1 could result in potential impacts on bald and golden eagles or their habitat.[3] According to the 2010 FEIR, a single juvenile bald eagle was observed during surveys in 1982. Individual bald eagles may forage over the proposed action area, but this species is not expected to breed on-site. However, a breeding pair of golden eagles nests on a regular basis along the eastern boundary of the proposed action area. Additional nesting pairs occur on EBRPD lands south of the site. Eagles in the area would use the grassland habitat within the site for foraging. However, because of the abundance of such habitat in the region, and because most foraging activity by these birds occurs in areas that would be preserved as open space, impacts on foraging habitat are considered only moderately adverse. Alternative 1 could remove up to 1,720 acres of California annual grassland and a total loss of 2,315 acres of existing vegetation communities on the site. The loss or disturbance of an active nest would be a significant adverse impact.

As described under the MBTA, it is unlawful to pursue, hunt, take, capture, kill, possess, or sell birds listed under the MBTA without appropriate permits. Take under the BGEPA has been broadly interpreted to include altering or disturbing nesting habitat. In addition, California Fish and Game Codes provide protections to nesting birds, including eagles. With the protections afforded by Area Plan minimization and mitigation measures and under the MBTA, BGEPA, and California Fish and Game Codes, potential impacts on eagles would not be significant because project proponents would be required to avoid and minimize potential impacts on the species and compensate for impacts on the species habitat.

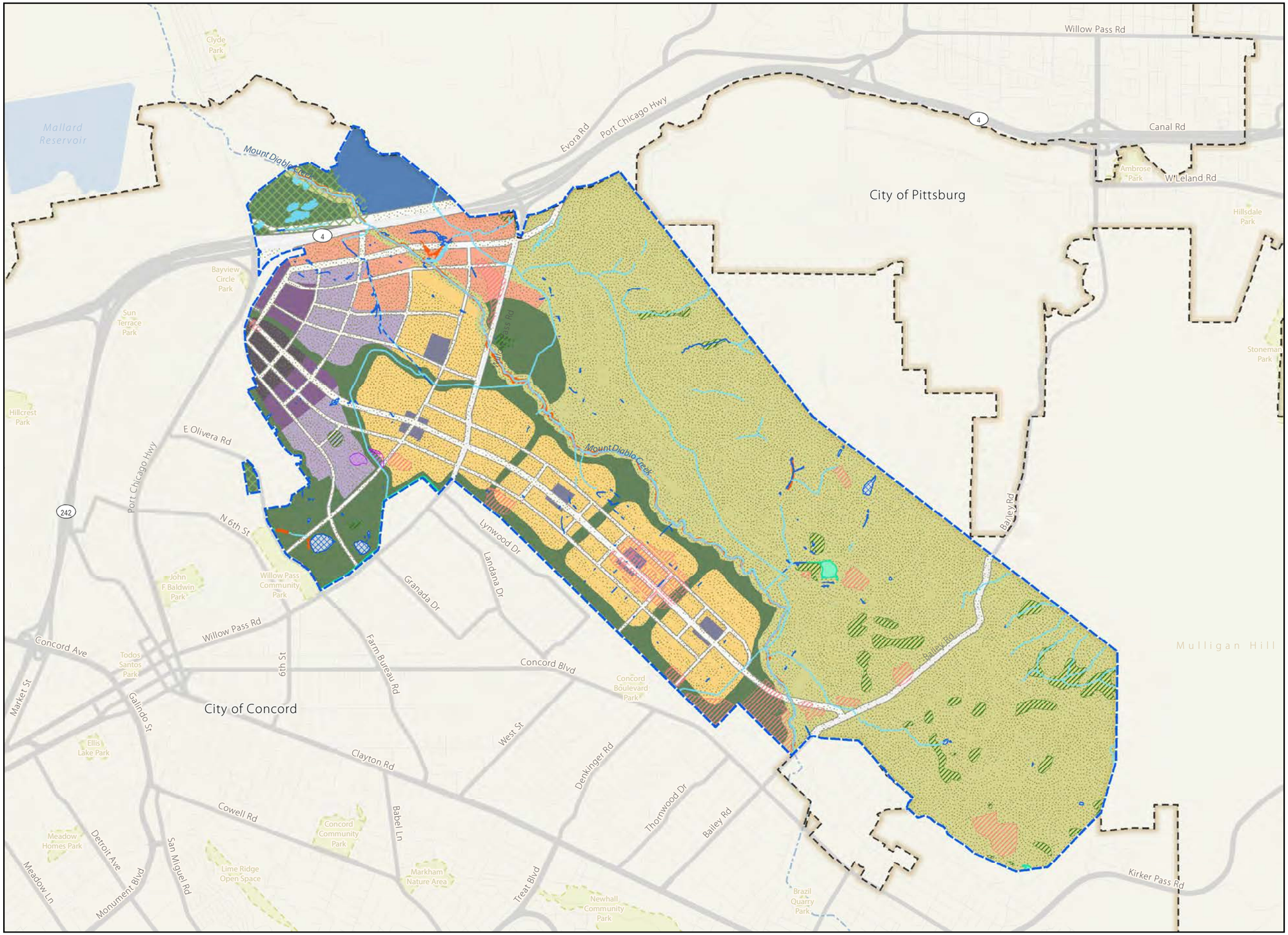
Therefore, construction and operation of Alternative 1 would not result in significant impacts on special status species, with the implementation of mitigation.

4.5.2 Alternative 2

Alternative 2 would maintain approximately 56 percent of the former NWS Concord as conservation and open space, and the remaining 44 percent would be developed as a mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, research and development/educational land uses, and greenways, citywide parks, and recreational areas within seven development districts. Figure 4.5-2 shows the development districts in relation to the vegetation communities onsite. The conservation area and open space district in Alternative 2 would total 2,825 acres and would include a regional park along the east side of the property along the ridgeline of the Los Medanos Hills area, and the Mt. Diablo Creek corridor.

[3] The golden eagle is not listed as a threatened or endangered species under the Federal Endangered Species Act but is protected by three federal laws: The Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and the Lacey Act. These laws prohibit the possession, use, and sale of eagle feathers and parts as well as a number of other activities, including the transportation of eagles and feathers and parts that have been illegally obtained. The Bald and Golden Eagle Protection Act has prohibited take of Bald Eagles since 1940 and Golden Eagles since 1962 (USFWS 2011).

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Vegetation_new_Alt_2.mxd



*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

Figure 4.5-2
Alternative 2 Redevelopment and Potential Vegetation Impacts
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Roadways

Vegetation Communities

- Seasonal Wetlands
- Creeks / Drainages / Canals / Ponds
- California Annual Grassland
- Freshwater Marsh
- Coyote Brush / Coastal Sage Scrub
- Golf Course / Recreation
- Oak Woodland / Savannah
- Orchards and Plantations
- Riparian Woodland

***Alternative 2 Types of Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- Greenways and Citywide Parks
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

N

SCALE

0 0.5 1 Miles

SOURCE: City of Concord, 2010; H. T. Harvey & Associates, 2009.

This page intentionally left blank.

Implementation of Alternative 2 would disturb approximately 2,362 acres of land, based on the assumption that 5 percent of the Conservation Open Space would be disturbed during construction, and all land within the other development districts would be disturbed during construction. Compared to Alternative 1, Alternative 2 would have a more concentrated residential development with the addition of a Village Center development district in the north-central portion of the site; however, a smaller portion of the site would be developed into the Greenways, Citywide Parks, and Tournament development district, resulting in a larger conservation/open space area in the northeastern portion of the site.

4.5.2.1 Vegetation Communities and Habitats

Implementation of Alternative 2 would include the permanent removal of existing vegetation communities and associated habitats within portions of the site. Table 4.5-2 identifies the vegetation communities and types of habitat that would be affected by the implementation of Alternative 2. These habitat impact acreages are areas where the development footprint overlaps these habitat types, resulting in the permanent removal of the existing habitat. Alternative 2 would result in the development of approximately 2,362 acres, the majority of which is currently California annual grassland, resulting in 1,593 acres of impacted grasslands (Table 4.5-2). Impacts on vegetation communities and habitats under Alternative 2 would be similar to impacts under Alternative 1, and are summarized herein.

Approximately 2,825 acres of land at this site would be maintained as conservation/open space. Temporary indirect impacts on the conservation/open space area in the form of temporary disturbance could occur during construction because this area is located next to areas that would be disturbed during construction. However, any temporarily disturbed areas designated as conservation/open space following construction activities will be restored to pre-construction conditions.

Table 4.5-2 Vegetation Communities and Habitat Impacts at the Former NWS Concord (Alternative 2)

Vegetation Communities / Habitats	Acreage of Impact
California Annual Grassland	1,593
Coyote Brush Scrub/Coastal Sage Scrub	5
Oak Woodland/Savannah	9
Riparian Woodland	5
Wetlands and Non-Wetland Waters	7.28
Ruderal/Urban	341
Orchards and Plantations	112
Recreation	86
Total	**2,158**

[1] The vegetation community impacts are based on GIS data for the districts, based on an assumption of full development within the district, with the exception of Wetlands and Non-Wetland Waters. For a detailed discussion of temporary and permanent impacts to wetland and proposed compensatory mitigation, see Section 4.14.1.2.

[2] Acreages are provided for planning purposes only and do not necessarily reflect the total acreage of the surplus property.

The permanent loss of these vegetative communities and habitat types (Table 4.5-2) would lead to habitat fragmentation in western Contra Costa County. Implementation of Alternative 2 could also result in a reduction of remnant stands of native grasses in the conservation/open space area through the introduction of invasive and non-native species. Some of the invasive plants documented on the site are listed on the California Invasive Plant Council watch list and could spread throughout the area during development. The implementation of Alternative 2 could also result in the removal of some of the mature trees in the oak woodland/savannah habitat type that may meet the criteria for the City of Concord Heritage Tree Ordinance. Alternative 2 would also result in the potential loss of up to approximately 7.28 acres of

jurisdictional and non-jurisdictional wetlands and waterbodies, although avoidance and minimization measures conducted during the CWA permitting process would likely reduce this number.

During future development activities, a number of regulatory policies and the implementation of minimization and mitigation measures from the Area Plan will ensure that the adverse impacts associated with the removal of vegetative communities and habitats will be minimized during construction and the future operation of the development districts. For instance, the City of Concord's General Plan policy (Policy POS-2.2.6) calls for the control of invasive plants within natural resource areas and general open space (City of Concord 2012). In addition, the City of Concord's General Plan, includes a policy to protect heritage trees (Policy POS-3.4.3 *Retain significant vegetation, including native vegetation and heritage trees, where feasible, and require replacement plantings as appropriate for mitigation*). As part of this process, future developers will be required to avoid, minimize, and/or mitigate for any permanent impacts on wetland or waters of the U.S. in accordance with existing policies and procedures of the City of Concord, CDFG (California Fish and Game Code Section 1602 - Lake or Streambed Alteration Agreements), and Sections 401 and 404 of the USACE's CWA requirements. For the conservation and open space area that would be conveyed to the EBRPD, the IPM practices associated with the EBRPD Master Plan (EBRPD 2013) would ensure that the spread of invasive species would be minimized during the construction and operation of a regional park.

Given that the majority of this vegetation community at the former NWS Concord would remain onsite within the conservation/open space area and that future development would be conducted in a manner consistent with the Area Plan and protective regulations of the City of Concord, the State of California, and the USACE, the loss of 2,200 acres of existing vegetation communities and habitats is not considered significant.

Therefore, construction and operation of Alternative 2 would not result in significant impacts on vegetation communities and habitats.

4.5.2.2 Fish and Wildlife

Implementation of Alternative 2 would cause both short- and long-term impacts on resident fish and wildlife populations. Long-term impacts could include species mortality and would include permanent habitat loss, as well as habitat fragmentation related to the loss of vegetative communities and habitat types as described in Section 4.5.2.1. Long-term impacts could also include indirect effects associated with increased recreational activities in the conservation area and the disturbance to existing wildlife communities. Short-term effects could include those impacts associated with temporary disturbance during construction. Mortality of less-mobile species such as small mammals and/or reptiles and amphibians would be possible during construction, as well as displacement of mobile species.

Implementation of Alternative 2 would result in the permanent conversion of extensive areas of relatively common and widespread habitats (e.g., California annual grassland) to more urban and suburban uses. This habitat conversion will result in a loss of existing habitat and changes in the abundance of wildlife species that currently use these habitats within the site. Table 4.5-2, above, lists the acreage of existing habitats that could potentially be impacted under Alternative 2. Although the total acreage of these impacts is large, the habitat types themselves are common and widespread in the region.

Wildlife species that use habitats within the development footprint on the former NWS Concord would be forced to migrate to other areas with suitable habitat or likely experience mortality as a result of construction. Small mammals and reptiles would be most affected, and some individuals of these species may be impacted if unoccupied habitat of equal quality is not available in the immediate vicinity. In addition to habitat loss, wildlife species may be temporarily displaced in peripheral areas during construction, when noise and human activity levels increase. Currently, wildlife movements are limited

by tall fencing around the site, but Alternative 2 would remove fencing from the former NWS Concord, thus alleviating this constraint to wildlife into the future conservation/open space area. Overall impacts on species diversity and abundance on the property from construction activities would be minor because the majority of these species would avoid areas of construction where equipment and human activities create disturbance.

Implementation of Alternative 2 could also result in temporary and permanent significant adverse impacts on nesting birds from development-related construction disturbance and direct removal of nests during the breeding season. Similar to Alternative 1, Alternative 2 could also result in the introduction of non-native wildlife species as a result of development. Alternative 2 would also result in the overall loss of stream and wetland habitats on the site, including the filling in of a portion of Willow Pass Creek, which would be filled in to facilitate the development of the Commercial Flex district. However, long-term benefits to fisheries resources will occur as a result of the restoration of Mt. Diablo Creek and the creation of a 300-foot riparian buffer, which should stabilize stream banks, thereby reducing erosion and sedimentation of stream substrates.

Alternative 2 also includes the development and preservation of the Conservation/Open Space, which would preserve extensive grasslands, oak woodland/savannah, and other more sensitive habitats in open space areas. The overall loss of these habitats in the development footprint will have only a small effect on the regional availability of these vegetation types. As a result, for most wildlife species associated with these common habitats, the loss of these habitats will result in a very slight reduction in regional populations.

In summary, Alternative 2 would result in adverse impacts on existing fish and wildlife resources. With the implementation of minimization and mitigation measures in the Area Plan, and through its planning and development review process, the city will ensure that future development plans address adverse impacts on fish and wildlife species such that impacts would be avoided, minimized, or adequately mitigated. Specifically for nesting birds, compliance with the MBTA and California Fish and Game Code Section 3513 will ensure that any adverse impacts are minimized. In addition, any state sensitive species, such as those listed as threatened or endangered or fully protected would be protected under existing California Fish and Game Codes. With the creation and preservation of the conservation area and open space on over 50 percent of the former NWS Concord, impacts on the fish and wildlife resources would not be significant.

Therefore, construction and operation of Alternative 2 would not result in significant impacts on fish and wildlife.

4.5.2.3 Special Status Species

Under Alternative 2, the disposal of the former NWS Concord would have no effect on federally listed species and would not result in the destruction or adverse modification of designated critical habitat. However, the subsequent reuse of the property through implementation of Alternative 2 would be an interrelated action that "may affect and is likely to adversely affect" some listed species.

Similar to Alternative 1, Alternative 2 would have the potential to adversely affect the California red-legged frog, the California tiger salamander, and the Alameda whipsnake. Impacts on these species would be similar to those described under Alternative 1, with the potential for increased long-term harassment of listed species from the increased development that could result in an increased use of recreational and picnic facilities in the conservation/open space area. The following impact assessment describes impacts on these, as well as other, special status species.

California Red-Legged Frog (Federally Threatened)

Implementation of Alternative 2 could result in potential direct and indirect effects to the federally listed California red-legged frog and its habitat. These adverse impacts would include permanent loss of non-breeding aquatic and dispersal habitat, direct mortality or injury during construction activities, and increased mortality or harassment of individuals by humans or domestic pets during operation of Alternative 2 on the site.

Direct impacts on non-breeding aquatic habitat, upland habitat, and dispersal habitats are expected. Based on the Navy's GIS data, the total area of impact associated with Alternative 2 would equate to 2,200 acres of impacts. This estimate was based upon the California red-legged frog's ability to widely disperse from suitable breeding habitat and potential to occur anywhere within the development footprint. The non-breeding aquatic habitats and adjacent upland/dispersal habitats within the development footprint include the seasonal wetlands near the former airfield that could provide suitable perennial aquatic habitat during the non-breeding season. While the City has committed to avoiding impacts to the large wetland area in the vicinity of the former airfield, the adjacent upland and dispersal areas would be impacted through the development of the greenways and citywide parks.

The implementation of Alternative 2 could result in the direct mortality or harassment of individuals, as well as short- and long-term indirect effects. Direct mortality could occur to individuals during construction activities within the proposed footprint of Alternative 1. In addition, the potential for spills of contaminants from construction equipment could result in harm to individuals. Direct effects could also occur through impacts associated with harassment or mortality resulting from increased human activity in California red-legged frog habitats during operation of the development districts under Alternative 2.

Conservation measures similar to those identified in the BO and ITS for Alternative 1 would address impacts resulting from the implementation of Alternative 2 and would include avoidance and minimization measures to limit the direct and indirect effects to the California red-legged frog.

Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant, as appropriate. If the city does not attain site-wide permits, then the future property owners or developers would need to secure any necessary permits to avoid or minimize impacts on California red-legged frog habitat.

In summary, the concepts described above would ensure that impacts on the California red-legged frog and its habitat would be avoided and minimized. Any long-term impacts would be minimized through the permitting process. Consequently, the Navy has determined that impacts on the federally threatened California red-legged frog under Alternative 2 would not be significant.

California Tiger Salamander (Federally Threatened)

Implementation of Alternative 2 could result in potential direct and indirect effects to the federally listed California tiger salamander and its habitat. These adverse impacts would include permanent loss of breeding, dispersal, and upland habitats; direct mortality or injury during construction activities; and increased mortality or harassment of individuals by humans or domestic pets during operation of Alternative 2 on the site.

Alternative 2 would result in the removal of historic breeding, dispersal, and upland habitat in the Bunker City area of the former NWS Concord. However, more recent data suggests that California tiger salamanders predominately breed in the southeastern portion of the site in a number of seasonal pools or small ponds. The analysis of Alternative 2 and the EDAW data indicated 898 acres would be impacted

through implementation of Alternative 2, which could result in the direct mortality or harassment of individuals, as well as short- and long-term indirect effects.

Direct mortality could also occur to individuals during construction activities within the proposed footprint of Alternative 2. Grading activities could directly crush individuals or trap and suffocate individuals during construction in the upland or wetlands areas within the proposed development districts. Direct effects could also result through harassment or mortality from increased human activity in California tiger salamander habitats during operation of the development districts under Alternative 2.

Conservation measures similar to those identified in the BO and ITS for Alternative 1 would address impacts resulting from the implementation of Alternative 2 and would include avoidance and minimization measures to limit the direct and indirect effects to the California tiger salamander.

Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and, as appropriate, add conditions to permits for such proposals that will address environmental impacts determined to be significant. If the city does not attain site-wide permits, then the future property owners or developers would need to secure any necessary permits to avoid or minimize impacts on California tiger salamander and its habitat.

In summary, the concepts described above would ensure that impacts on California tiger salamanders and their habitats would be avoided and minimized. Any long-term impacts would be minimized through the permitting process. Consequently, the Navy has determined that impacts on the federally threatened California tiger salamander under Alternative 2 at the former NWS Concord would not be significant.

Alameda Whipsnake (Federally Threatened)

Implementation of Alternative 2 could result in minor, permanent, or temporary adverse impacts on the federally listed Alameda whipsnake or its habitat. The Alameda whipsnake has not been previously documented on the site, and the only suitable habitat for it exists in small patches of sage scrub in the upper Rattlesnake Canyon area and the grasslands with rock outcrops in the areas southeast and just northwest of Bailey Road. As these locations will be located within the conservation/open space area, adverse impacts are expected to be limited.

Alternative 2 could result in permanent adverse impacts on Alameda whipsnake habitat through the development of recreational trails or picnic areas within suitable habitat of the conservation/open space area. The use of construction equipment within these areas could result in direct mortality if individuals are physically crushed during grading activities or trapped within underground spaces during site preparation. In addition, post-development recreational use could adversely impact this species through human use or disturbance by domestic animals. However, these impacts are also considered minor because no Alameda whipsnakes have been documented on the site and the overall development footprint within this area would be extremely small compared to the surrounding habitats that would remain undisturbed.

Any long-term impacts upon the Alameda whipsnake associated with the implementation of Alternative 2 would be minimized through the permitting process. Conservation measures similar to those identified in the BO and ITS for Alternative 1 would address impacts resulting from the implementation of Alternative 2 and would include avoidance and minimization measures to limit the direct and indirect effects to the Alameda whipsnake. If the city does not attain site-wide permits, then the future property owners or developers would need to secure any necessary permits to avoid or minimize impacts on Alameda whipsnake and its habitat. Consequently, the Navy has determined that impacts on the federally threatened Alameda whipsnake under Alternative 2 at the former NWS Concord would not be significant.

Bald Eagle and Golden Eagle

Implementation of Alternative 2 could result in potential impacts on bald and golden eagles or their habitat. Bald eagles may occasionally be transient individuals over the site, but a breeding pair of golden eagles have regularly nested along the eastern boundary of the site. Eagles in the area would primarily use the grassland habitat within the site for foraging. Alternative 2 would remove up to 1,650 acres of California annual grassland and a total loss of 2,200 acres of existing vegetation communities on the site. However, because of the abundance of such habitat in the region, and because most foraging activity by these birds occurs in areas that will be preserved as open space by this project, impacts on foraging habitat are considered only moderately adverse. However, any loss of or disturbance to an eagle nest would be a significant adverse impact.

As described under the MBTA, it is unlawful to pursue, hunt, take, capture, kill, possess, or sell birds listed under the MBTA without appropriate permits. Take under the BGEPA has been broadly interpreted to include altering or disturbing nesting habitat. In addition, California Fish and Game codes provide protections to nesting birds, including eagles. With the protections afforded by the Area Plan minimization and mitigation measures and under MBTA, BGEPA, and California Fish and Game codes, potential impacts on eagles would not be significant because project proponents would be required to avoid and minimize potential impacts on the species and compensate for impacts on the species' habitat.

State-Listed Species

Impacts on state-listed species will be avoided or minimized, as the City of Concord will review development proposals, consult with resource agencies (e.g., required consultation under CESA), and add conditions to permits for such proposals that will address environmental impacts determined to be significant. The Area Plan FEIR (City of Concord 2010) includes a series of mitigation measures that will avoid or minimize adverse impacts on state listed species. Where avoidance or minimization is not sufficient to avoid adverse impacts on state listed species, the City of Concord has included mitigation requirements to ensure that any impacts on state listed species are not significant.

Therefore, construction and operation of Alternative 2 would not result in significant impacts on special status species, with the implementation of mitigation.

4.5.3 No Action Alternative

4.5.3.1 Vegetation Communities and Habitats

The No Action Alternative would not result in redevelopment, and the property would remain in caretaker status. There would be no impacts on existing vegetation communities or habitats on the site. Existing vegetation would be managed in accordance with the Base Realignment and Closure Program Management Office Building Vacating, Facility Layaway, and Caretaker Maintenance Guidance (Navy 2007). The Navy would continue to maintain some form of vegetation management in portions of the site to reduce the potential for future natural disasters (e.g., wildfires). Even with continued vegetation management, some expansion of invasive plant species may continue within the California Annual Grasslands vegetation community, further reducing the productivity of this habitat for native plant and wildlife populations.

4.5.3.2 Fish and Wildlife

Under the No Action Alternative, the property would be retained by the U.S. government in caretaker status. The overall abundance of wildlife may increase because of the lack of human activity. As mentioned in Section 4.5.3.1, the expansion of invasive plant species could further reduce the suitability of existing habitats on the site for various wildlife populations.

4.5.3.3 Special Status Species

The No Action Alternative would likely result in the continued existence of the California red-legged frog and California tiger salamander populations on the site. As mentioned in Section 4.5.3.1, under caretaker status, the Navy would continue to maintain vegetation management for the site, which would address the occurrence of a wildfire. Some expansion of invasive plant species at the site may occur under this alternative, and it may reduce the suitability of the existing habitats on the site to support the existing federally listed species.

4.6 Cultural Resources

This EIS provides an evaluation of the potential environmental consequences of the disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative on cultural resources and also requires compliance with the NHPA as part of this evaluation. Therefore, the Navy has evaluated the potential impacts of the proposed action in terms of its effects on significant cultural resources, defined as those cultural resources that have been determined NRHP-eligible and hence considered historic properties, pursuant to Section 106 of the NHPA.

Section 106 of the NHPA of 1966 (P.L. 96-515), as amended (1980 and 1992), and its implementing regulations (36 CFR 60, 63, and 800), requires federal agencies to take into account the effects of their undertakings on significant cultural properties, including archaeological sites, historic structures, landscapes, and districts. To comply with Section 106 of the NHPA and its implementing regulations at 36 CFR Part 800, the Navy is required to identify historic properties within the area of potential effect (APE), as discussed previously in Section 3.6, and to consider the effects of the proposed undertaking on these properties. The effects of the impacts of the proposed undertaking on historic properties were evaluated pursuant to Section 106 of the NHPA, using the ACHP's guidance on determining effects, including findings of no effect on historic properties, no adverse effect on historic properties, and adverse effect on historic properties (36 CFR 800.4[d] and 800.5; ACHP 2004). These criteria are listed in Table 4.6-1.

4.6.1 Alternative 1

Under Alternative 1, the disposal of the former NWS Concord would have no direct impacts on the two NRHP-eligible archaeological sites (Sites CA-CCO-680 and P-07-00861) because the transfer of the former NWS Concord out of federal ownership would have no physical impacts. However, the proposed reuse of the former installation property under Alternative 1 has the potential to result in indirect impacts on the two NRHP-eligible archaeological sites.

Under Alternative 1, once the BRAC process is complete and the former installation property has been transferred out of federal ownership, ground-disturbing construction activities have the potential to result in direct, permanent, negative impacts on NRHP-eligible archaeological sites CA-CCO-680 and P-07-00861. These impacts would result from the destruction and/or disturbance of the two archaeological sites during any ground-disturbing construction activities at the site locations, including ground-disturbing activities within the area of disturbance for Alternative 1 and ground-disturbing activities that may occur within land proposed for conservation/open space under Alternative 1 (see Figure 2-1).

Potential indirect, permanent, negative impacts on archaeological sites CA-CCO-680 and P-07-00861 resulting from implementation of Alternative 1 would be significant pursuant to NEPA because both the sites have been determined NRHP-eligible. The evaluation of impacts of Alternative 1 on historic properties in accordance with Section 106 of the NHPA indicates that without "adequate and legally enforceable restrictions or conditions to ensure long-term preservation of these properties' historic significance," the transfer of the two NRHP-eligible archaeological sites out of federal ownership would be considered an adverse effect under 36 CFR 800.5(2)(vii) (Lee 2014). Additionally, it is reasonably

foreseeable that reuse of the surplus property consistent with the City of Concord's Concord Reuse Project Area Plan (2012) may also adversely affect historic properties. Applying the criteria of adverse effect indicates that disposal and subsequent reuse of the former NWS Concord has the potential to result in adverse effects on historic properties (Lee 2014).

Table 4.6-1 Findings of Effect on Historic Properties

Finding of No Historic Properties Affected (No Effect on Historic Properties)
"If the agency official finds that either there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them as defined in §800.16(i), the agency shall provide documentation of this finding, as set forth in §800.11(d), to the SHPO/THPO" (36 CFR 800.4[d][1]).
Finding of No Adverse Effect
"If the agency official finds that there are historic properties which may be affected by the undertaking, the agency official shall notify all consulting parties, including Indian tribes and Native Hawaiian organizations, invite their views on the effects and assess adverse effects, if any, in accordance with §800.5" (36 CFR 800.4[d][2]). "The agency official, in consultation with the SHPO/THPO may propose a finding of no adverse effect when the undertakings' effects do not meet the criteria of paragraph (a)(1) [of 36 CFR 800.5] or the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the SHPO/THPO … to avoid adverse effects" (36 CFR 800.5[b]). "The agency official shall maintain a record of the finding of no adverse effect and provide information on the finding to the public on request consistent with the confidentiality provisions of §800.11(c)" (36 CFR 800.5[d]).
Finding of Adverse Effect
"An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or cumulative" (36 CFR 800.5[a][1]).
Examples of Adverse Effect
"Adverse effects on historic properties include but are not limited to: • Physical destruction of or damage to all or part of the property • Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR Part 68) and applicable guidelines • Removal of the property from its historic location • Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance • Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features • Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization • Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance" (36 CFR 800.5[a][2]).

Source: ACHP 2004.

In compliance with Section 106 of the NHPA, the Navy consulted with the California SHPO and 11 other consulting parties, including federally recognized Indian tribes and proposed property recipients, on the effects of the disposal and reuse of the former NWS Concord on historic properties and determined that this undertaking would have an adverse effect on historic properties. The Navy continued to consult with the California SHPO and the 11 other consulting parties on the resolution of adverse effects on historic properties. The purpose of this continued consultation was to develop measures to avoid, minimize, and mitigate potential adverse effects on historic properties (Lee 2014). As a result of this continued consultation, the Navy developed a Memorandum of Agreement (MOA) between the Navy, the California SHPO, the City of Concord, and EBRPD stipulating measures to resolve the adverse effects of implementing the disposal and reuse of the former NWS Concord on historic properties specific to those areas containing the NRHP-eligible prehistoric archaeological sites CA-CCO-680 and P-07-00861. The MOA was executed on April 10, 2017 (see Appendix J). As required by 36 CFR 800.6(b), the Navy submitted a copy of the executed MOA to the ACHP on April 28, 2017.

The following summarizes key measures of the 2017 MOA:

1. Prior to property transfer, the Navy will conduct interim management of sites CA-CCO-680 and P-07-00861 in the context of its caretaker maintenance and pre-conveyance licensing and leasing programs (Stipulation I.A.);
2. The Navy will insert a deed notice in deeds conveying the two NRHP-eligible archaeological sites (CA-CCO-680 and P-07-00861) that references the sites and the applicability of the MOA after transfer (Stipulation I.C.);
3. The City of Concord will protect and preserve Site CA-CCO-680 by capping it, as described in the MOA and the associated Treatment Plan for Site CA-CCO-680, and preserving it in place within a greenway (Stipulation III.C);
4. The City and EBRPD will withhold from public disclosure, to the extent permitted by law, information about the location, character, and ownership of sites CA-CCO-680 and P-07-00861 (Stipulations II.E. and III.B.);
5. As a condition of any permit or entitlement issued by the city that will result in ground disturbance within the city property, the city will require implementation of inadvertent discovery measures by any public or private entity during earth-disturbing activities (MMRP Mitigation Measure Cultural Resources 3) (Stipulation II.F.);
6. EBRPD will protect and preserve Site P-07-00861 as well as an adjoining 50-foot-wide protection buffer, within a habitat conservation area that will be restricted from public access (Stipulation III.C);
7. EBRPD will not permit ground disturbance from human agents and activities on Site P-07-00861, and ground disturbance within the 50-foot-wide protection buffer will only be permitted for activities associated with habitat enhancement (Stipulation III.E); and
8. EBRPD will ensure that whenever any ground-disturbance activities are undertaken within the EBRPD parcel, the EBRPD will implement inadvertent discovery measures (Stipulation III.F).

Separately from the NEPA process, the City of Concord adopted mitigation measures for potential impacts on archaeological resources at the former NWS Concord as part of the CEQA process for the Area Plan (Arup 2010) that were based on the results of the Phase I cultural resources survey (Garcia-Herbst and Hale 2008) and included the following: (1) measures for preservation in place or for adequate

data recovery, curation, and documentation of historic properties/historical resources prior to earth-disturbing activities that would impact any of the six sites in the areas where development is proposed (archaeological sites CA-CCO-680, CA-CCO-780H, CA-CCO-781H, CA-CCO-785H, CA-CCO-786, and CA-CCO-788H); (2) cultural resources protection measures to control public access to the five resources located within the Open Space and Parks and Recreation districts (archaeological sites CA-CCO-777H, CA-CCO-787H, CA-CCO-791H, P-07-00860, and P-07-00861); and (3) inadvertent discovery measures for the protection of cultural resources, including human remains. The public or private sponsor of the proposed development would be responsible for establishing and implementing the inadvertent discovery measures prior to initiating ground-disturbing activities (Arup 2010). In addition, it is anticipated that the open space area would be managed by the EBRPD in accordance with the cultural and resources management policies specified in the EBRPD Master Plan (EBRPD 2013a).

With the implementation of the measures in the executed MOA between the Navy, the California SHPO, the City of Concord, and the EBRPD, and the implementation of City of Concord mitigation measures, the potential indirect, permanent, negative impacts of Alternative 1 on the NRHP-eligible archaeological resources at former NWS Concord, Sites CA-CCO-680 and P-07-00861, would be resolved such that they are not considered significant under NEPA. Similarly, with the implementation of the measures in the executed MOA between the Navy, the California SHPO, the City of Concord, and the EBRPD, the adverse effects of the disposal and reuse of the former NWS Concord on historic properties would be resolved under Section 106 of the NHPA.

4.6.2 Alternative 2

The impacts of Alternative 2 on cultural resources and historic properties are the same as those identified for Alternative 1. With the implementation of mitigation similar to that provided under Alternative 1, the potential indirect, permanent, negative impacts on the NRHP-eligible archaeological resources at former NWS Concord, Sites CA-CCO-680 and P-07-00861, would be resolved such that they are not considered significant.

4.6.3 No Action Alternative

The No Action Alternative would have no impacts on cultural resources or historic properties because the former installation would remain in caretaker status, and the property would not be redeveloped. Because the No Action Alternative would have no impacts on cultural resources or historic properties, the effects of impacts do not require consideration pursuant to Section 106 of the NHPA.

4.7 Topography, Geology, and Soils

This section summarizes the potential impacts on topography, geology, and soil resources resulting from the implementation of Alternative 1, Alternative 2, and the No Action Alternative at the former NWS Concord.

4.7.1 Alternative 1

4.7.1.1 Topography

Construction of Alternative 1 may involve below-grade development, which could somewhat change the current topography of the former NWS Concord site. As described in the Area Plan, most of the future development would take place in the valley floor, mass grading would be largely avoided, and hillsides and steeper slopes would be preserved as open space. If the topography would be altered to raise the current topography, it would be contoured gradually. Thus, the impact of Alternative 1 related to alteration of topography would not be significant.

4.7.1.2 Geology

The former NWS Concord site is located in a seismically active area and has a high probability of earthquake hazard. Seismic hazards include earthquakes, ground faulting, and secondary effects such as liquefaction and related slope failures.

Seismically Induced Ground Shaking and Associated Ground Failure

Liquefaction typically occurs when saturated, clean, fine-grained loose sands near the surface (usually in the upper 50 feet) are subject to intense ground shaking and the water table is shallow. One of the major types of liquefaction-induced ground failures is lateral spreading of mildly sloping ground. Lateral spreading is a failure within a nearly horizontal soil zone (possibly from liquefaction) that causes the overlying soil mass to move toward a free face or down a gentle slope.

The former NWS Concord is located within an area where liquefaction susceptibility ranges from Very Low to Very High (USGS 2006, USGS 2005-2006). In addition, the USGS has predicted that there is a 63 percent chance of an earthquake with a magnitude of 6.7 or greater occurring in the Bay Area during the next 30 years. The intensity of the seismic shaking during an earthquake depends on the distance and direction to the earthquake's epicenter, the magnitude of the earthquake, and the area's geologic conditions (USGS 2007). Earthquakes occurring on faults closest to the former NWS Concord site would have the potential to generate the largest ground motions at the site. The implementation of Area Plan policies addressing earthquake and landslide hazards would address impacts associated with seismically induced ground shaking and associated ground failure. In addition, under Alternative 1, buildings would be engineered and designed per the IBC (or reference the National Earthquake Hazards Reduction Program Recommended Seismic Provisions for New Buildings and Other Structures [Federal Emergency Management Agency P-749 and P-75]) to address the potential for seismically induced ground shaking and associated ground failure at the former NWS Concord. Therefore, no significant adverse impacts related to seismically induced ground shaking are expected.

Seismically Induced Landslides or Slope Failures

Landslides include slumps, translational slides, rock falls, deep failure of slopes, and shallow debris flows. Although gravity acting on an over-steepened slope is the primary reason for a landslide, erosion, slopes weakened through saturation, and earthquakes are also contributing factors. Human activities can be a contributing factor in causing landslides. Many human-caused landslides can be avoided or mitigated. They are commonly a result of building roads and structures without adequate grading of slopes, of poorly planned alteration of drainage patterns, and of disturbing old landslides (USGS 2013).

The former NWS Concord contains a few areas with higher landslide susceptibility, along the northeastern property boundary. This area consists of mapped landslides and intervening areas typically narrower than 1,500 feet. The remaining areas of the site are mapped as having few landslides. Few of these mapped landslides contain any large mapped landslides, but they locally contain scattered small landslides and questionably identified larger landslides (USGS 1998). Under Alternative 1, the areas of the former NWS Concord site that are within areas with higher landslide susceptibility are intended to be conservation areas. Therefore, no significant adverse impacts associated with seismically induced landslides or slope failures would occur under Alternative 1.

Surface Fault Rupture

Surface fault rupture is the abrupt shearing displacement that occurs along a fault that extends to the ground surface when the fault ruptures to cause an earthquake. Generally, a fault rupture extends to the ground surface only during earthquakes of magnitude 6 or higher. Surface fault shear displacements typically range from a few inches to a foot or two for a magnitude 6 earthquake and to 10 feet or more for a magnitude 7.5 earthquake. Because fault displacements tend to occur along a relatively narrow area

defining the fault zone, large displacements may have catastrophic effects on a structure located directly astride the fault. Most current seismic design codes are not intended to prevent damage caused by surface fault rupture, liquefaction, landslides, ground subsidence, or inundation.

One fault is located on the former NWS Concord: the Clayton Section Greenville Fault (northern section of the Greenville Fault) (see Figure 3.7-1). This fault is located in the southeastern to the northeastern portion of the site and is categorized as a Holocene fault. There is no record of historic earthquakes on the Clayton Fault section, although it is considered an active fault. Because the fault is considered active, under Alternative 1 there is a potential for impact due to fault rupture. Under Alternative 1, the implementation of Area Plan policies addressing earthquake and landslide hazards would address impacts associated with surface fault failure. In addition, buildings would be engineered and designed per the IBC (or reference the National Earthquake Hazards Reduction Program Recommended Seismic Provisions for New Buildings and Other Structures [Federal Emergency Management Agency P-749 and P-75]) to address seismic risks at the former NWS Concord.

Therefore, construction and operation of Alternative 1 would not result in significant impacts on geology, with the implementation of mitigation.

4.7.1.3 Soils

Erosion Potential

Construction completed during Alternative 1 would involve site grading and preparation that would disturb exposed artificial fill. Despite previous development on the former NWS Concord site, erosion and loss of topsoil could occur as a result of construction activities. Excavation, grading, importation of fill, and facility construction would require temporary disturbance of surface soils and removal of existing onsite buildings/features (e.g., magazine areas, research areas, housing, etc.). Exposed fill materials could be susceptible to erosion during construction-related excavation. Stormwater runoff could cause erosion during project construction.

As described in the Area Plan, an NPDES General Permit for Discharges of Storm Water Associated with Construction Activity would need to be obtained prior to the start of construction activities (State Water Resources Control Board Order No. 99-08-DWQ). Construction activities disturbing 1 acre or more and having drainage flowing to a separate sewer system requires a Stormwater Pollution Prevention Plan (SWPPP) to be prepared and implemented per the Construction General Permit's conditions. In addition, erosion and sedimentation control measures would need to be implemented in compliance with the city's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31) and the city's Grading and Erosion Control Ordinance (Chapter 86, Article III, Section 86-71). See also Section 4.14 (Water Resources), which evaluates erosion in further detail. With implementation of a SWPPP, the initial adverse construction impacts related to erosion and loss of topsoil would not be significant.

Farmland

The former NWS Concord site includes approximately 3,434.7 acres of prime farmland (if irrigated) or farmland of statewide importance. No unique farmland soils occur on the property. Grazing takes place across much of the site, and some limited agricultural research uses are also located within the site. Prime farmland and statewide important farmland soils have essentially been converted to urban uses on the former installation. There is also very little agriculture in the vicinity of the installation and little in the way of farm support services. There are no agricultural investments (barns, drainage or irrigation systems, etc.) on the installation. The impact of Alternative 1 on prime farmland and farmland of statewide importance would not be significant.

Hydric Soils

Approximately 1,275 acres of the former NWS Concord site are occupied by soil map units in which all or some of the soils are hydric; non-hydric soil map units also can contain hydric inclusions. Therefore, new construction under Alternative 1 could impact mapped hydric soils and hydric inclusions in non-hydric soils. Hydric soils may require special measures during construction or other uses to overcome limitations caused by wetness. Limitations may include a high water table or low strength for supporting construction equipment and structures. Hydric soils may also present limitations to development activities (e.g., excavation and movement of heavy equipment) due to wet conditions. The implementation of Area Plan policies requiring that structures be designed to reflect the findings of evaluations of geologic hazards and soil conditions would address impacts associated with hydric soils.

Constructability

The primary constructability limitations on the former installation include hydric soils and shallow depth to bedrock. Depth to bedrock is less than 5 feet in several areas. Shallow depth to bedrock may require blasting to excavate for foundations. The implementation of Area Plan policies requiring that structures be designed to reflect the findings of evaluations of soil conditions would address impacts associated with constructability.

Therefore, construction and operation of Alternative 1 would not result in significant impacts on soils, with the implementation of mitigation.

4.7.2 Alternative 2

Alternative 2 has a slightly smaller development footprint than the Area Plan and is generally consistent with the policies developed by the City of Concord during the reuse planning process but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development. Under Alternative 2, development and conservation would take place in largely the same locations and according to the same development program, concepts, and principles, with some differences. Approximately 70 percent of the property would be maintained as conservation, parks, or recreational land uses, and 30 percent would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses. Development on the site would allow for up to a maximum of 15,872 housing units and 6.1 million square feet of commercial space within the development footprint. (The total area of commercial uses would be the same for Alternative 2 as for Alternative 1.) Two major conservation areas proposed include a regional park, which would encompass the east side of the property along the ridgeline of the Los Medanos Hills, and the Mt. Diablo Creek corridor, which would be managed as proposed in Alternative 1.

4.7.2.1 Topography

As with Alternative 1, Alternative 2 could result in below-grade development or could somewhat change the current topography of the site. As discussed under Alternative 1, the construction-related impact of Alternative 2 related to alteration of topography would not be significant.

4.7.2.2 Geology

Seismically induced ground shaking and ground failure under Alternative 2 would involve the same project components as Alternative 1. Thus, the effects related to seismically induced ground failure discussed above for Alternative 1 also would apply to Alternative 2. To limit seismic risk, the proposed buildings would be engineered and designed to address the potential for seismically induced ground shaking and associated ground failure at the former NWS Concord site. Therefore, construction and operation of Alternative 2 would not result in significant impacts on geology, with the implementation of mitigation.

4.7.2.3 Soils

The effects of constructing buildings as proposed under Alternative 2 would be similar to those of Alternative 1. As under Alternative 1, a NPDES general permit for stormwater discharges associated with construction activities would need to be completed, and a SWPPP would need to be implemented that meets the conditions of the Construction General Permit. With implementation of a SWPPP and Area Plan policies requiring that structures be designed to reflect the findings of evaluations of geologic hazards and soil conditions, the construction-related impact of Alternative 2 related to erosion and loss of topsoil would not be significant. Therefore, construction and operation of Alternative 2 would not result in significant impacts on soils, with the implementation of mitigation.

4.7.3 No Action Alternative

The No Action Alternative is retention of the surplus property at the former NWS Concord site by the U.S. government in caretaker status. No reuse or redevelopment would occur at any location within the property. As a result, the No Action Alternative would be expected to have no direct or indirect impacts on topography, geology, or soils.

4.8 Hazards and Hazardous Substances

This section describes the potential impacts on the environment from hazardous wastes and materials associated with disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. It includes an examination of the potential impacts from hazards associated with the presence, use, handling, disposal, or transport of hazardous wastes and materials relative to Navy ER Program sites and other regulatory sites (such as SWMU) sites and radiological sites), as well as hazardous waste/materials management associated with redevelopment and future use of the property.

4.8.1 Methodology

4.8.1.1 ER Program Sites and other Regulatory Sites

As discussed in Sections 3.8.1 and 3.8.3, the former NWS Concord was placed on the CERCLA NPL on December 16, 1994, and subsequent CERCLA investigation and remedial actions have been and continue to be conducted under the Navy's ER Program. The Navy is implementing CERCLA response actions to address actual or threatened releases of hazardous substances, pollutants, or contaminants into the environment at the former NWS Concord in a way that will ensure adequate protection of human health and the environment. This fundamental "threshold" requirement of CERCLA (Section 121[b] of CERCLA, 42 U.S.C. 9621[b]) and the NCP (40 CFR 300.430[f][1][i][A]) applies regardless of future ownership of the former NWS Concord property or the legal authority used to convey the property from the Navy to another legal entity.

ER Program requirements can be satisfied by different types and combinations of actions, ranging from recommendations for no further action to response actions that consist of removal or remedial actions. Response actions can include excavation and disposal, treatment, and containment of hazardous substances, pollutants, or contaminants. Potential environmental effects of the removal and remedial activities are evaluated by the Navy and regulatory agencies in conjunction with the approval process for specific response actions selected and implemented by the Navy under CERCLA. The response actions are ultimately specified in a CERCLA ROD (for remedial actions) or CERCLA action memorandum (for removal actions). CERCLA and the NCP also require that CERCLA response actions selected by the Navy comply with applicable or relevant and appropriate federal and state laws and regulations during the course of and at the completion of the response action.

Remedial actions can include the use of LUCs or ICs, which are restrictions placed on a site to protect human health and the environment in cases where the site cannot or will not be cleaned up to levels that allow unrestricted use. LUCs are typically physical (e.g., engineering controls), legal (e.g., restrictive covenants or deeds), or administrative (e.g., notices and permits) mechanisms that restrict property use to ensure that land use activities in the future remain compatible with the conditions of the land. ICs are typically administrative or legal devices. The Navy commonly uses the term "ICs" to encompass both LUCs and ICs. ICs ensure the integrity of the selected remedy and may allow property to be developed for its intended use, subject to compliance with prescribed controls or restrictions. ICs include requirements for monitoring, inspection, and reporting to ensure compliance with land use or activity restrictions.

The Navy, EPA, DTSC, and RWQCB will, independent of the proposed action and this EIS, require that appropriate and legally enforceable CERCLA ICs are implemented, as required, before any project site development activity occurs at the former NWS Concord. In so doing, the Navy will be ensuring that actual or potential releases of hazardous substances have been addressed in a way that ensures the protection of human health and the environment following transfer in accordance with Section 120(h) of CERCLA (42 U.S.C. 9620[h]). Such ICs would generally take the form of a recorded covenant, deed provision, easement, or lease term. As described in Sections 3.8.2.1 and 3.8.2.3, a deed transferring title to real property shall contain, to the extent required by law, the notices, restrictions, covenants, and assurances specified in Section 120(h). The Navy may, when appropriate, place limits on land reuse through deed restrictions on conveyance and use restrictions on leases. The Navy, EPA, DTSC, and RWQCB may also retain right-of-access to some properties to inspect monitoring wells or conduct other remedial activities. Actions taken in accordance with these restrictions would not result in a hazard to the public or the environment.

If ICs are prescribed as part of the remedial action for an ER Program site, the Navy would rely upon proprietary controls in the form of environmental restrictive covenants as provided in the "Memorandum of Agreement between the United States Department of the Navy and the California Department of Toxic Substances Control" and attached covenant models (the Navy/DTSC MOA) (Navy and DTSC 2000). Land use and activity restrictions would be incorporated into two separate legal IC instruments as provided in the Navy/DTSC MOA:

1. Restrictive covenants included in one or more quitclaim deeds from the Navy to the property recipient.
2. Restrictive covenants included in one or more covenants to restrict use of property entered into by the Navy and the DTSC as provided in the Navy/DTSC MOA and consistent with the substantive provisions of 22 CCR Section 67391.1.

The covenant to restrict use of property would incorporate the land use and activity restrictions into environmental restrictive covenants that run with the land and that are enforceable by the DTSC and any other signatory state entity against future transferees and users. The quitclaim deed would include the identical land use and activity restrictions in environmental restrictive covenants that run with the land and that will be enforceable by the Navy against future transferees and users. The covenant and deed would provide for future access to the subject property by the Navy and/or applicable regulatory agencies, as well as describe IC implementation and maintenance actions such as the frequency and requirements for periodic inspection, monitoring, and reporting. The FOST (or FOSET) prepared for the transfer would describe current environmental conditions and any applicable restrictions, notifications, or deed covenants. (see Sections 3.8.2.3 and 4.8.1.3 for further discussion.)

In addition to ER Program requirements, the future developer or owner will be required to obtain all applicable local and state permits, approvals, planning reviews, and consultations and adhere to all applicable building, zoning, environmental, and health and safety laws and regulations before and during the development of the former NWS Concord following disposal of the property by the Navy.

As a result of the implementation of legally prescribed CERCLA remedial actions, including the use of appropriate and legally enforceable ICs, and the expectation that the future developer or owner of the former NWS Concord property would adhere to local, state, and federal laws and regulations during construction and operation, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes and materials associated with ER Program sites would be minimized to the extent practicable. There would be no reasonably foreseeable environmental impacts and no significant environmental impacts as a result of releases of hazardous substances, pollutants, or contaminants from disposal and reuse of the former NWS Concord, relative to ER Program sites.

A similar analysis and determination would apply to the SWMU sites (regulated under RCRA) and radiological sites (regulated under CERCLA and the Atomic Energy Act) at the former NWS Concord.

4.8.1.2 Other Hazardous Waste/Materials Management

The analysis assumes that reuse of the former NWS Concord property following disposal by the Navy would involve the routine use of hazardous materials and generation of hazardous waste from both construction/demolition and operational activities. Quantification of precise amounts of hazardous waste and materials expected to be associated with new proposed uses is not practical at this stage of proposed action development. Therefore, the analysis broadly and qualitatively evaluates hazardous waste generation and hazardous material use during future occupancy.

For purposes of the analysis, compliance with existing federal, state, and local laws and regulations pertaining to hazardous waste and materials management is presumed to be sufficient to minimize health and safety risks, and state and local agencies would be expected to continue to enforce applicable requirements to the extent they do now. The local requirements discussed in this section are evaluated as they would apply during future occupancy and use by transferees after the Navy has conveyed the property. They do not apply to the Navy's CERCLA cleanup program because local requirements are not federal or state "applicable or relevant and appropriate" requirements (Sections 121[d] and [e] of CERCLA, 42 U.S.C. 9621[d] and [e]).

4.8.1.3 Finding of Suitability to Transfer

As discussed previously in Section 3.8.2.3 and reiterated here, the Navy must ensure that all applicable statutory and regulatory requirements have been satisfied before transfer of BRAC property. The Navy prepares a FOST for the transfer of title to real property by deed to non-federal entities. A FOST summarizes how the applicable requirements and notifications for hazardous substances, hazardous materials, petroleum products, and other regulated materials (such as ACM, LBP, and PCBs) have been satisfied and that the property is environmentally suitable for transfer. A FOST also addresses any restrictions, notifications, or deed covenants related to regulated materials at the surplus property. Any long-term remedies, including LUCs or ICs, and responsibilities for maintenance and reporting are discussed in a FOST. A FOST is forwarded to the EPA and state agencies for review and comment (DOD 2006).

Potentially contaminated properties can be transferred under the "early transfer" process of CERCLA, as described in Section 3.8.2.1, in which case the Navy would prepare a FOSET to transfer property prior to completion of cleanup actions. In the case of a FOSET, either the Navy or the property recipient may

conduct cleanup actions. A FOSET allows for earlier property transfer and redevelopment while still assuring property cleanup.

4.8.2 Alternative 1

4.8.2.1 Program Sites

Construction/demolition activities under Alternative 1 would include building, facility, and weapons magazine demolition; excavation; trenching; grading and compaction; and other earth-disturbing activities in areas that include former ER Program sites. The new commercial, residential, industrial, recreational, and conservation land uses would similarly operate on property that includes former ER Program sites.

As described in Section 3.8.3 and Table 3.8-1, the Navy's ER Program at the former NWS Concord is in various stages of completion depending on the ER Program site. The CERCLA investigation has been completed at many sites, which have been recommended for no further action, and continues at others. For most of the active IRP and MMRP sites, the Navy anticipates that investigation and final remedy would be completed over the next 5 to 10 years, which would be compatible with the 25-year build-out schedule presented in the Area Plan.

Figure 4.8-1 shows the ER Program sites at the former NWS Concord in relation to the development districts proposed under Alternative 1. Table 4.8-1 summarizes the ER Program sites at the former NWS Concord, their current status under the ER Program, the type of Alternative 1 development district the site falls within, and whether ICs are anticipated to be part of the CERCLA remedy for the site. The potential for future ICs is not yet known for those sites that are in earlier stages of the CERCLA investigative process or that are being reevaluated to confirm earlier findings. Prior to transfer or lease of the former NWS Concord property, the Navy will complete investigation and remediation activities under the ER Program and obtain the regulatory concurrences described in Section 4.8.1.1. Additionally, investigation and remediation activities and regulatory concurrences could be completed under the early transfer process discussed in Section 3.8.2.1.

As established in the methodology described in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes or materials associated with construction and operation activities of Alternative 1 at former ER Program sites would be minimized to the extent practicable, and there would be no significant impacts. Specific redevelopment plans would need to consider and accommodate any ICs prescribed for former ER Program sites.

As discussed in Section 4.1, the City of Concord would be responsible for review and approval of applications for development following the transfer of property from the Navy. In its review and approval process in the context of an early transfer (if an early transfer is agreed to by all required parties), the City of Concord will require a developer to have a remediation plan that has been approved by applicable environmental regulatory agencies and developed in consultation with the city. Any remediation planning and implementation would occur prior to city approval of the development plan or, alternatively, as part of development activities. The city will not issue a certificate of occupancy until the implementation of the remediation has been approved by the applicable regulatory agencies (City of Concord 2010). In its review and approval process for development of Navy-transferred property, the City of Concord will require a developer or future landowner to have a site management plan that covers site development activities, including requirements for worker health and safety plans, air monitoring plans, dust control plans, and soil management plans, as appropriate, that have been approved by applicable environmental regulatory agencies. As well, the city will require that development activities do not interfere with any remediation activities or systems of the Navy or others, and that the details of those activities and systems are included in appropriate property transfer documents (such as the covenants, deeds, and FOSTs/FOSETs discussed above).

Table 4.8-1 Relationship of ER Program Sites to Proposed Development and Other Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
Installation Restoration Program (IRP) Sites					
Active IRP Sites					
SWMU 2	Building IA-7 Burn Pit	Remedial action for VOCs in groundwater and soil gas in progress.	Yes, unless the remedial action goals have been met prior to property transfer.	• First Responder Training Center	• Campus
SWMU 5	Buildings IA-12 and 269			• First Responder Training Center	• Campus
SWMU 7	Buildings IA-15 and IA-16			• First Responder Training Center	• Campus
SWMU 18	Building IA-51			• First Responder Training Center	• Campus
22	Building 7SH5 and Main Magazine Area	NTCRA for endrin-contaminated soil completed. Bioavailability study for arsenic in surface soil in progress, to be followed by FS addendum and ROD.	Yes. LUCs for arsenic in surface soil.	• Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood	• Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood

Table 4.8-1 Relationship of ER Program Sites to Proposed Development and Other Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
22A	Magazine Group 1	Proposed Plan recommended NFA. ROD signed.	No.	• Commercial Flex	• Commercial Flex
	Magazine Group 2	Proposed Plan recommended NFA. ROD signed.	No.	• Commercial Flex • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities	• Commercial Flex • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities
	Magazine Group 3	Proposed Plan specified LUCs for arsenic in surface soil. ROD signed. LUC-RD completed.	Yes. LUCs for arsenic in surface soil.	• Conservation Open Space	• Conservation Open Space
	Magazine Group 4	Proposed Plan recommended NFA. ROD signed.	No.	• Conservation Open Space	• Conservation Open Space
	Magazine Group 5	Proposed Plan specified LUCs for arsenic in surface soil. ROD signed. LUC-RD completed.	Yes. LUCs for arsenic in surface soil.	• Conservation Open Space	• Conservation Open Space

Table 4.8-1 Relationship of ER Program Sites to Proposed Development and Other Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
29M	Building IA-25	NTCRA for VOCs in groundwater in progress. Follow-on groundwater investigation, revised FS, ROD, remedial action, and long-term monitoring will be subsequently completed.	Yes. LUCs to restrict use of groundwater (and the installation of groundwater monitoring wells) are anticipated.	• Greenways, Citywide Parks, and Tournament Facilities • Village Neighborhood	• Village Neighborhood
41	IA-100 Storage Areas	NFA recommended for two of the four areas (IA-100 South and the Area North of IA-100). NTCRA for MEC in soil planned for various areas within IA-100.	No for two of the four areas. Not yet specified for the two remaining areas.	• Conservation Open Space	• Conservation Open Space
42	Building 81	RI for VOCs in soil and groundwater in progress.	Not yet specified.	• Conservation Open Space	• Conservation Open Space

Table 4.8-1 Relationship of ER Program Sites to Proposed Development and Other Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
Closed or No Further Action IRP Sites					
14	Kinne Boulevard Wells	NFA recommended.	No.	• Two wells are outside the current boundary for the former NWS Concord, on property transferred to the U.S. Army • The third well partly falls in the area of Greenways, Citywide Parks, and Tournament Facilities	• Two wells are outside the current boundary for the former NWS Concord, on property transferred to the U.S. Army • The third well partly falls in the area of Greenways, Citywide Parks, and Tournament Facilities
16	Black Pit at Red Rock	NFA recommended twice previously.	No.	• Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities	• Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities
17	Building IA-24	NFA ROD.	No.	• Conservation Open Space	• Conservation Open Space
18 (including AOPI Building IA-25 Outfeature)	Building IA-25	NFA recommended twice previously.	No.	• Village Neighborhood	• Village Neighborhood

Table 4.8-1 Relationship of ER Program Sites to Proposed Development and Other Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
20	Old Homestead, Seal Creek	NFA recommended.	No.	• Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities	• Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities
27	Buildings IA-20 and IA-36	NFA ROD.	No.	• Commercial Flex	• Commercial Flex
Military Munitions Response Program (MMRP) Sites					
Active MMRP Sites					
UXO 0001A (also known as IRP Site 24A, Pistol Firing Range)	Former Pistol Range	NTCRA for MEC, metals, and PAHs in soil in progress.	Not yet specified.	• Conservation Open Space	• Conservation Open Space
UXO 0009/ UXO 0003 (portions of site were formerly IRP Site 13, Burn Area)	Former Inland Burn Area/Railroad Sidings Excavation Area	TCRA for MEC and metals in soil completed. RI completed. FFS for constituents in soil and groundwater in progress.	Not yet specified.	• Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood	• Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood
UXO 0010 (formerly IRP Site 23B)	Eagle's Nest EOD	TCRA for MEC in soil completed. RI/FFS for constituents in soil in progress.	Not yet specified.	• Conservation Open Space	• Conservation Open Space

Table 4.8-1 Relationship of ER Program Sites to Proposed Development and Other Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
UXO 0011	Guam Way	TCRA for debris and MEC in soil completed. RI/FS for constituents in soil and groundwater in progress.	Not yet specified.	• Village Neighborhood	• Village Neighborhood
UXO 0012	Bermed Area	RI for MEC and munitions constituents in soil completed. FFS for constituents in soil in progress.	Not yet specified.	• Conservation Open Space	• Conservation Open Space
UXO 0013	Rocket Practice Area	PA/SI for MEC in soil in progress.	Not yet specified.	• Conservation Open Space	• Conservation Open Space
Closed or No Further Action MMRP Sites					
UXO 0005	Burn Area Near HE-5	NFA recommended.	No.	• Conservation Open Space	• Conservation Open Space
None (formerly IRP Site 23A)	Inland Area EOD	NFA recommended twice previously.	No.	• Conservation Open Space	• Conservation Open Space
None (formerly IRP Site 24B, Aircraft Firing Range)	Bore Sighting Range	NFA recommended twice previously.	No.	• Village Neighborhood	• Central Neighborhood • Greenways, Citywide Parks, and Tournament Facilities

Table 4.8-1 Relationship of ER Program Sites to Proposed Development and Other Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
Other Sites and Investigations					
Areas of Potential Interest					
AOPI	Building IA-27	NFA recommended.	No.	• Greenways, Citywide Parks, and Tournament Facilities	• Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities
AOPI	Building 93	NFA recommended.	No.	• Conservation Open Space	• Conservation Open Space
AOPI	Northern Railroad Excavation A	NFA recommended.	No.	• Central Neighborhood	• Central Neighborhood
AOPI	Northern Railroad Excavation B	NFA recommended.	No.	• Central Neighborhood	• Central Neighborhood
AOPI	Northern Railroad Excavation C	NFA recommended	No.	• Central Neighborhood	• Central Neighborhood
AOPI	Unocal Pipeline Site	NFA recommended.	No.	• Greenways, Citywide Parks, and Tournament Facilities • Village Neighborhood	• Greenways, Citywide Parks, and Tournament Facilities
Preliminary Assessment/Re-verification Investigation Sites					
15	Railroad Classification Yard	NFA previously recommended. PA/RVI report for MEC recommended NFA.	No.	• Campus • Commercial Flex • Conservation Open Space	• Commercial Flex • Conservation Open Space • Village Neighborhood

Table 4.8-1 Relationship of ER Program Sites to Proposed Development and Other Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
UXO 0002	Borrow/Dredge Fill Area	NFA previously recommended. PA/RVI report for chemicals in soil and for MEC recommended further evaluation. Additional soil sampling in progress.	Not yet determined if required.	• Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood	• Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood
UXO 0004	Red Rock Disposal Area	NFA previously recommended. PA/RVI report for chemicals and munitions constituents in soil and groundwater recommended further evaluation. RI planned.	Not yet determined if required.	• Greenways, Citywide Parks, and Tournament Facilities • Village Neighborhood	• Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities • Village Neighborhood
UXO 0006 (formerly IRP Site 19, Seal Creek)	Seal Creek Disposal Area	NFA previously recommended. PA/RVI report for chemicals in soil and for MEC recommended NFA.	No.	• Conservation Open Space	• Conservation Open Space
None	C-3 Disposal Area	NFA previously recommended. PA/RVI report for chemicals in soil recommended NFA.	No.	• Commercial Flex • Conservation Open Space	• Commercial Flex • Conservation Open Space
None	Nitens Plantation	NFA previously recommended. PA/RVI report for debris in soil recommended NFA.	No.	• Conservation Open Space	• Conservation Open Space

Table 4.8-1 Relationship of ER Program Sites to Proposed Development and Other Districts, Alternatives 1 and 2

Site Number	ER Program Site Name	Current Status	ER Program Response Action Anticipated to Include Institutional Controls	Proposed Development	
				Alternative 1	Alternative 2
None	Runway Apron Fuel Pit/Septic System Area	PA/RVI report for chemicals in soil and groundwater and for MEC recommended no further investigation for Runway Apron Fuel Pit/Septic System Area, and further investigation for MEC in area south of runway apron. SI for Runway Debris Areas in progress.	No, for Runway Apron Fuel Pit/Septic System Area. Not yet determined if required for Runway Debris Areas.	• Village Neighborhood	• Greenways, Citywide Parks, and Tournament Facilities
None	Southern Railroad Excavations T10, T11, and T12	NFA previously recommended. PA/RVI report for chemicals in soil and for MEC recommended NFA.	No.	• Central Neighborhood	• North Concord TOD Neighborhood

City of Concord 2010; ECC-Insight LLC 2014; Malcolm Pirnie, Inc., 2007; Navy April 2006, April 2010, July 2010, January 2012, November 16, 2012, November 2012, March 2013, November 2016; Tetra Tech, Inc., 2013; Tetra Tech EM, Inc., 2013; Trevet 2012; TriEco-Tt 2012, 2016a.

Key:

AOPI = area of potential interest
EOD = explosive ordnance disposal
FS = feasibility study
FFS = focused feasibility study
IRP = installation Restoration Program
LUC = land use control
MEC = munitions and explosives of concern
MMRP = Military Munitions Response Program
MPPEH = material potentially presenting an explosive hazard
NFA = no further action
NTCRA = non-time-critical removal action
PA = preliminary assessment
PA/RVI = preliminary assessment/re-verification investigation
PAH = polycyclic aromatic hydrocarbon
RI = remedial investigation
ROD = record of decision
SI = site inspection or site investigation
SWMU = solid waste management unit
TCRA = time-critical removal action
TOD = transit-oriented development
VOC = volatile organic compound

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\Environmental_Restoration_Sites_combined_Alternative_1_2017_01_19.mxd 7/27/2017

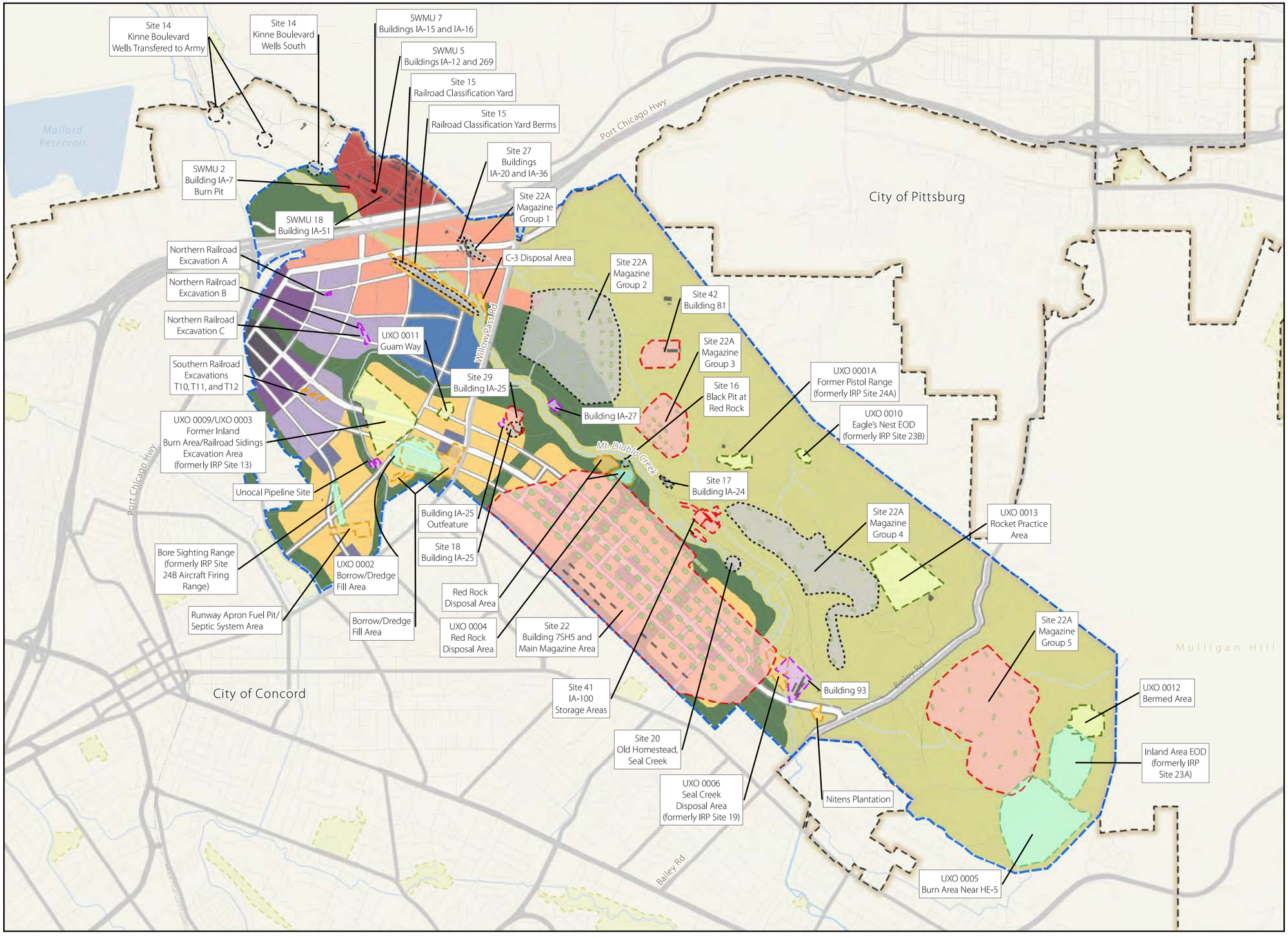


Figure 4.8-1
Alternative 1, ER Program Sites
Former NWS Concord
Concord, California

Legend

- Major Road
- Street
- Railroad
- Stream/Canal
- Roadways
- Former NWS Concord
- City Limit
- Waterbody
- Local Park

- Building
- Magazine
- Active Installation Restoration Program (IRP) Site
- Closed or No Further Action IRP Site
- Active Military Munitions Response Program (MMRP) Site
- Closed or No Further Action MMRP Site
- Closed or No Further Action Area of Potential Interest (AOPI) Site
- Preliminary Assesment/ Re-verification Investigation (PA/RVI) Site

*Alternative 1 Types of Districts

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways, Citywide Parks and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

N

SCALE

0 0.5 1 Miles

SOURCE: Navy 2006, 2008, 2014; ESRI 2010; Tetra Tech 2014. (See text for additional site-specific references)

This page intentionally left blank.

4.8.2.2 Solid Waste Management Unit Sites

Construction/demolition activities under Alternative 1 would include building, facility, and weapons magazine demolition; excavation; trenching; grading and compaction; and other earth-disturbing activities in areas that include former SWMU sites. The new commercial, residential, industrial, recreational, and conservation land uses would similarly operate on property that includes former SWMU sites.

As described in Section 3.8.4 and Table E-1 in Appendix E, of the 37 SWMUs originally identified at the former NWS Concord, 33 have received a recommendation of no further action, and four SWMUs were transferred to the IRP. Prior to transfer or lease of the former NWS Concord property, the Navy will compile appropriate DTSC concurrence and closure documentation for the 33 SWMU sites not transferred to the IRP.

As established in the methodology described in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes or materials associated with construction and operation activities of Alternative 1 at former SWMU sites would be minimized to the extent practicable, and there would be no significant impacts.

The City of Concord's review and approval process discussed in Section 4.8.2.1 would also apply to specific redevelopment plans for former SWMU sites.

4.8.2.3 Radiological Sites

Construction/demolition activities under Alternative 1 would include building, facility, and weapons magazine demolition; excavation; trenching; grading and compaction; and other earth-disturbing activities in areas that include former radiological sites. The new commercial, residential, industrial, recreational, and conservation land uses would similarly operate on property that includes former radiological sites.

As described in Section 3.8.5 and Table 3.8-2, the HRA conducted in 2010 concluded that 48 sites at the former NWS Concord—seven buildings and 41 weapons magazines—may have been impacted from historical uses of radioactive material, although the contamination potential is considered unlikely. The term "impacted" is an NRC term used early in an investigation process that indicates there is a possibility for residual radioactive contamination exceeding NRC's release standards. The HRA determined that there is no contamination potential associated with surface soil, surface water, groundwater, or air at any of the 48 sites. A low potential for contamination was determined to exist for subsurface soil, structures, and drainage systems at the seven buildings and for structures at the 41 weapons magazines. The Navy is presently performing the additional surveys recommended by the HRA for those areas with a contamination potential of "low," and SI/Scoping Survey reports are in development. The Navy is coordinating with appropriate federal and state agencies regarding final recommendations for these sites.

Figure 4.8-2 shows the impacted radiological sites designated by the HRA at the former NWS Concord in relation to the development districts proposed under Alternative 1. Table 4.8-2 summarizes the impacted radiological sites, the potential for contaminated media at each site as identified by the HRA, and the type of Alternative 1 development district the site falls within. Prior to transfer or lease of the former NWS Concord property, the Navy will complete its investigation and, as necessary, any remediation of the 48 sites identified by the HRA. The investigation and remedial program will proceed under the CERCLA process in coordination with EPA Region 9 (Naval Sea Systems Command 2010). The Navy anticipates obtaining NRC, EPA, and DTSC concurrence and closure for the sites.

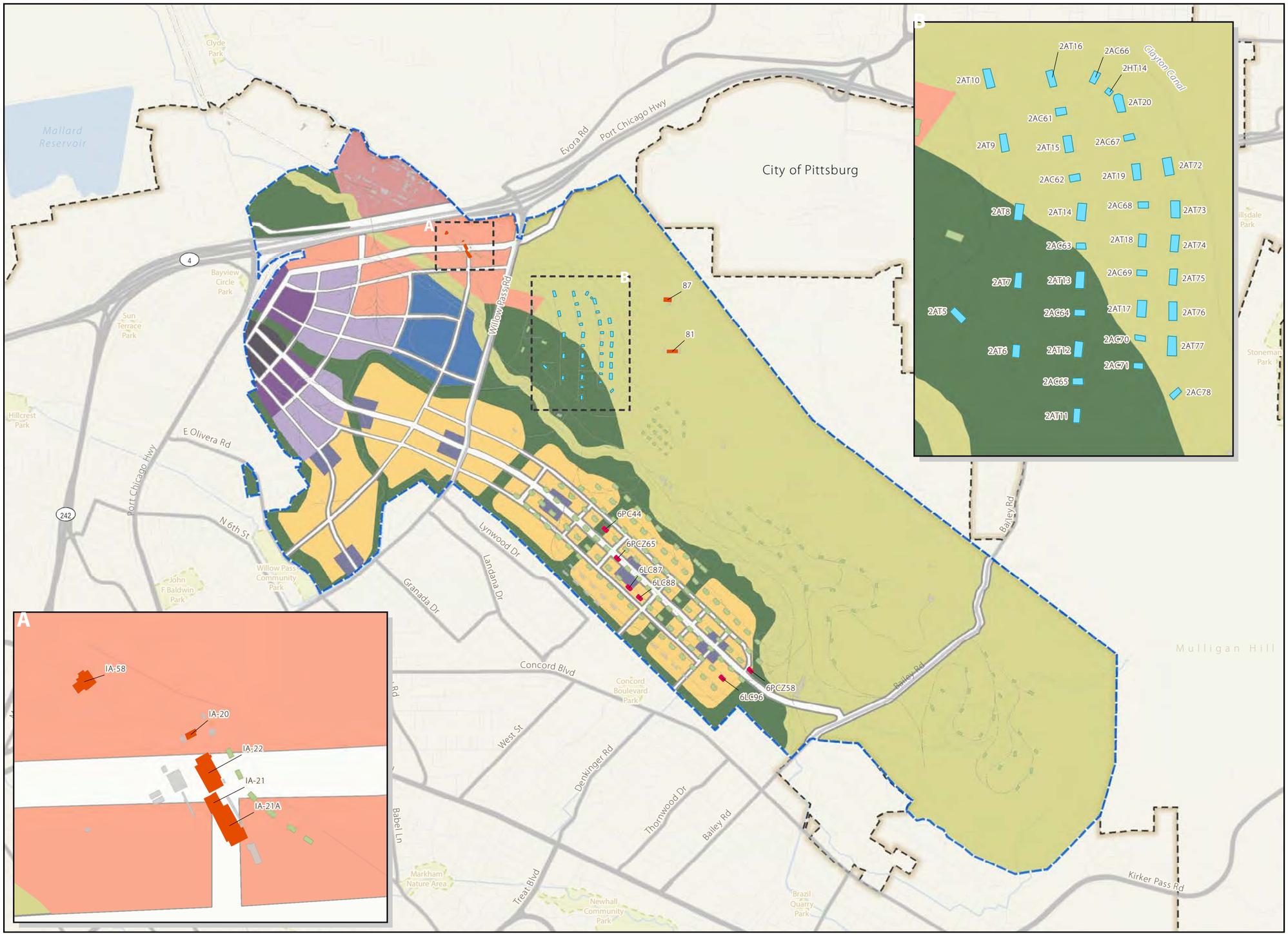
Table 4.8-2 Relationship of Radiological Sites to Proposed Development and Other Districts, Alternatives 1 and 2

Impacted Site Designated by Historical Radiological Assessment (HRA)[a]	Potential for Contaminated Media Based on HRA[a]	Proposed Development	
		Alternative 1	Alternative 2
Building IA-20, Chemical Laboratory	None: Surface soil, surface water, groundwater, air Low: Subsurface soil, structures, drainage systems	• Commercial Flex	• Commercial Flex
Building IA-21, Material Test Laboratory		• Commercial Flex	• Commercial Flex
Building IA-21A, Evaluation Laboratory		• Commercial Flex	• Commercial Flex
Building IA-22, Photography Laboratory		• Commercial Flex	• Commercial Flex
Building IA-58, X-Ray Building		• Commercial Flex	• Commercial Flex
Building 81, Ordnance Maintenance and Test Building		• Conservation Open Space	• Conservation Open Space
Building 87, Inert Storage Building		• Conservation Open Space	• Conservation Open Space
Depleted Uranium Munitions Storage Magazines (6 total): 6LC87, 6LC88, 6LC96, 6PC44, 6PCZ58, and 6PCZ65	None: Surface soil, subsurface soil, surface water, groundwater, air, drainage systems Low: Structures	Depending on the magazine: • Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood	Depending on the magazine: • Greenways, Citywide Parks, and Tournament Facilities • Village Center • Village Neighborhood
Special Weapons, Bulk Magazines (17 total): 2AC61, 2AT5, 2AT6, 2AT7, 2AT8, 2AT9, 2AT10, 2AT11, 2AT12, 2AT13, 2AT14, 2AT15, 2AT16, 2AT17, 2AT18, 2AT19, and 2AT20		Depending on the magazine: • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities	Depending on the magazine: • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities
Special Weapons, RI Magazines (17 total): 2AC62, 2AC63, 2AC64, 2AC65, 2AC66, 2AC67, 2AC68, 2AC69, 2AC70, 2AC71, 2AT72, 2AT73, 2AT74, 2AT75, 2AT76, 2AT77, and 2AC78		Depending on the magazine: • Conservation Open Space • Greenways, Citywide Parks, and Tournament Facilities	• Conservation Open Space
Special Weapons Magazine 2HT14		• Conservation Open Space	• Conservation Open Space

Source: Naval Sea Systems Command 2010.

[a] The HRA concluded that the potential for contamination at each of the 48 impacted sites is unlikely. The Navy is performing the additional surveys recommended by the HRA for those areas with a contamination potential of "low." See Section 3.8.5 for additional information.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Potential_Radiological_Sites_Alt1.mxd



*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

Figure 4.8-2
Alternative 1, Potential Radiological Sites
Former NWS Concord
Concord, California

Legend

- Major Highway
- Street
- Railroad
- Stream/Canal
- Roadways
- Former NWS Concord
- City Limit
- Waterbody
- Local Park

- Building
- Magazine

Potential Radiological Sites Identified by Historical Radiological Assessment:

- Building
- Depleted Uranium Munitions Storage Magazine
- Special Weapons Magazine

*Alternative 1 Types of Districts

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways, Citywide Parks, and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

SCALE

0 0.5 1 Miles

SOURCE: ESRI 2010; Naval Sea Systems Command 2010.

This page intentionally left blank.

As established in the methodology in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of radioactive wastes or materials associated with construction and operation activities of Alternative 1 at former radiological sites would be minimized to the extent practicable, and there would be no significant impacts.

The City of Concord's review and approval process discussed in Section 4.8.2.1 would also apply to specific redevelopment plans for former radiological sites.

4.8.2.4 Other Hazardous Waste/Materials Management

Construction/demolition and operational activities to accommodate new development under Alternative 1 would involve the routine use of hazardous materials and routine generation of hazardous wastes. Potential impacts associated with those activities are discussed below.

4.8.2.4.1 Hazardous Waste

Some RCRA hazardous wastes would be generated during the construction/demolition of existing facilities and the development and operation of the new commercial, residential, industrial, recreational, and conservation land uses planned under Alternative 1. The use of heavy equipment and machinery and the performance of demolition and construction activities would result in waste oils and oily wastes, chemicals, acids, paints, solvents, cleaners, degreasers, and PCB-containing light ballasts (from the removal of old fluorescent light fixtures), as well as universal wastes such as batteries and fluorescent light bulbs. Operation of the new businesses and daily residential living would result in the routine generation of similar hazardous wastes, as well as waste pesticides and herbicides from pest control and landscaping. Offices and retail businesses, recreational facilities, and residential areas would generate relatively modest amounts of hazardous waste, whereas new industrial facilities could generate larger amounts of hazardous waste. Although not a RCRA hazardous waste, medical and biohazardous waste would be generated by any medical facilities (such as doctor and dentist offices, laboratories, and pharmacies) that are established in the new development districts under Alternative 1.

The generation of hazardous waste under Alternative 1 would be greater than what is generated now at the former NWS Concord, which is in a reduced operational status. However, impacts would be minimized by adhering to standard regulations, policies, and procedures for hazardous waste management. DTSC's regulations in CCR Title 22 Division 4.5, Environmental Health Standards for the Management of Hazardous Waste, apply to the generation, storage, treatment, transport, and disposal of hazardous waste. The future developers and owners of the property would be required to manage hazardous wastes in accordance with applicable local, state, and federal regulations. Demolition and construction contractors typically would be required under contract to segregate, collect, and properly dispose of hazardous waste in accordance with Contra Costa County, state, and federal requirements.

The new businesses, their management/service contractors, and residents similarly would be required to manage hazardous wastes in accordance with county, state, and federal requirements. Contra Costa County provides a household hazardous waste program to residents and qualified small businesses, with a choice of three collection facilities throughout the county, in order to prevent the disposal of household hazardous waste in municipal solid waste. In addition to the regulatory requirements, industrial facilities would be subject to more regulatory oversight than businesses and households that generate smaller quantities of hazardous waste. Hazardous waste transporters also would be required to follow state and federal hazardous waste regulations.

Although more hazardous waste would be generated under Alternative 1 compared to existing conditions, compliance with the regulatory framework that is in place for hazardous waste management would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the

presence, handling, disposal, or transport of hazardous waste from construction and operational activities under Alternative 1; those impacts would not be significant.

4.8.2.4.2 Underground Storage Tanks

As described in Section 3.8.6.2, all of the 42 USTs originally located at the former NWS Concord have been removed and have received determinations of no further action, closure, or both. Prior to transfer or lease of the former NWS Concord, the Navy will compile applicable regulatory concurrence from the RWQCB that the removed tanks have been properly closed.

New USTs could be installed for certain commercial and industrial businesses that are established under Alternative 1, such as gas stations, laboratories, and manufacturers. Such USTs would need to be installed, maintained, and monitored in accordance with CCR Title 23, Division 3, Chapter 16, Underground Storage Tank Regulations.

Compliance with the regulatory framework that is in place for managing USTs would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, use, handling, disposal, or transport of hazardous materials in USTs under Alternative 1; those impacts would not be significant.

4.8.2.4.3 Aboveground Storage Tanks

As described in Section 3.8.6.3, all of the 21 ASTs originally located at the former NWS Concord have been removed and have received determinations of closure. Prior to transfer or lease of the former NWS Concord, the Navy will compile applicable regulatory concurrence from CCHS that the tanks have been properly closed.

Similar to USTs, new ASTs could be installed for certain commercial and industrial businesses that are established under Alternative 1, such as laboratories and manufacturers. Such ASTs would need to be installed, maintained, and monitored in accordance with the Aboveground Petroleum Storage Act and the CUPA, which is CCHS.

Compliance with the regulatory framework that is in place for managing ASTs would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, use, handling, disposal, or transport of hazardous materials in ASTs under Alternative 1; those impacts would not be significant.

4.8.2.4.4 Asbestos

ACM was found in all but 8 of the 151 structures evaluated in the most recent asbestos investigation conducted for the former NWS Concord, which was performed in 2013 (see Section 3.8.6.4). Due to the age and use of the buildings and utilities at the former NWS Concord, ACM may be present in any unsurveyed structure or utilities constructed prior to 1989, the year that asbestos use was restricted in the U.S. The report from the 2013 asbestos investigation provides estimates of ACM for the structures surveyed (TriEco-Tt 2016b).

Under Alternative 1, the future developers or owners of the property would have to remove ACM from buildings that are demolished to allow for new development. Specialized ACM removal contractors would have to be used to ensure that ACM is removed safely and that human health and the environment are protected. ACM removal would have to be conducted in accordance with federal and state requirements, which address ACM removal, ACM disposal, worker safety, and air quality. For example, National Emission Standards for Hazardous Air Pollutants (NESHAPS) (40 CFR Part 61), as enforced by the local AQMD, requires that each owner or operator of a demolition activity subject to NESHAPS

remove regulated ACM from the facility being demolished before any activity is undertaken that would break up, dislodge, or disturb the materials. Regulated ACM need not be removed before demolition if the ACM is considered non-friable (e.g., vinyl asbestos floor tiles), is not in poor condition, and would not be rendered friable during the demolition process.

Compliance with the regulatory framework that is in place for asbestos management would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, handling, disposal, or transport of ACM resulting from construction/demolition activities under Alternative 1; those impacts would not be significant. There would be no impact associated with new construction and future use of the property because asbestos is no longer used in new building materials.

4.8.2.4.5 Lead-Based Paint

LBP has been evaluated in the past at the former NWS Concord largely for housing and child-occupied areas; little information exists for other buildings (see Section 3.8.6.5). Due to the age of the buildings in general at the former NWS Concord, LBP could be present in any structure built prior to 1978, the year that LBP use was restricted in the U.S. Estimates are not available for potential quantities of LBP-containing materials in buildings on the property.

Under Alternative 1, the future developers or owners of the property would have to remove LBP from buildings that are demolished to allow for new development. Specialized LBP-removal contractors would have to be used to ensure that LBP is removed safely and that human health and the environment are protected. LBP removal would have to be conducted in accordance with federal and state requirements, which address worker safety and air quality as well as the proper removal of LBP in residential or child-occupied areas. In accordance with RCRA, demolition waste streams that might contain lead would be evaluated, either by applying knowledge of the waste or by testing using the toxicity characteristic leaching procedure (TCLP), to determine whether hazardous waste disposal regulations are applicable. LBP-containing wastes generated from demolition would be required to be stored, transported, and disposed of offsite by an authorized contractor in accordance with RCRA requirements.

Lead from LBP reported to be in soil beneath Building IA-25 (IRP Site 29) is being addressed under the ER Program, as discussed in Section 3.8.3.1.1.

Compliance with the regulatory framework that is in place for LBP management would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, handling, disposal, or transport of LBP from construction/demolition activities under Alternative 1; those impacts would not be significant. There would be no impact associated with new construction and future use of the property because LBP manufacture and use have been restricted since 1978.

4.8.2.4.6 Polychlorinated Biphenyls

The most recent investigation conducted for PCBs in oil-filled electrical equipment (which primarily consists of transformers) at the former NWS Concord was performed in 2013 and 2015. That investigation concluded that oil-filled electrical equipment at the installation contains either no PCBs or PCBs below the EPA limit of 50 ppm (see Section 3.8.6.6). Some of the 207 documented pieces of oil-filled equipment contain PCBs at levels greater than or equal to 5 ppm, which is the level at which the DTSC requires PCB-containing liquids to be managed as a hazardous waste, when those liquids are disposed of (22 CCR Division 4, Chapter 11, Article 3). The PCB status of an inactive hydraulic lift in Building IA-58 could not be determined during the 2013/2015 investigation. Any areas of environmental contamination involving PCBs at the former NWS Concord have been remediated.

Prior to transfer or lease of the former NWS Concord, the Navy would provide analytical results for PCB testing for the oil-filled electrical equipment on the property, demonstrating that PCBs are below the EPA 50-ppm limit. Oil-filled electrical equipment (primarily consisting of transformers) that is handled or removed during construction and development activities under Alternative 1 would need to be handled in accordance with applicable state and federal regulations for hazardous waste if oil containing PCBs equal to or greater than 5 ppm is disposed of. Light ballasts from older fluorescent fixtures that are removed during building demolition could be considered to be suspect for PCBs if they do not have a "Contains No PCBs" label, were manufactured prior to 1979, and cannot be confirmed through the manufacturer to be PCB-free. Such ballasts would require management as a hazardous waste if the PCB content could exceed DTSC hazardous waste standards.

Compliance with the regulatory framework that is in place for PCB management would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, handling, disposal, or transport of PCBs from construction/demolition activities under Alternative 1; those impacts would not be significant. There would be no impact associated with new construction and future use of the property because PCB manufacture was banned in the U.S. in 1979.

4.8.2.4.7 Radioactive Materials

Potential impacts associated with the prior use of radioactive materials at the former NWS Concord are addressed in Section 4.8.2.3, Radiological Sites.

Under Alternative 1, radioactive materials could be used in soil density gauges, soil moisture gauges, and radiography gauges used during construction and demolition activities. New businesses that could use radioactive materials would include hospitals, medical offices, medical laboratories, pharmacies, and certain industries. Construction contractors and the new businesses would be required to hold radioactive materials licenses and conduct their activities in accordance with the requirements of CDPH and the State Radiation Control Law, which are authorized by the NRC.

Compliance with the regulatory framework that is in place for radioactive materials management would minimize hazards to the public and the environment. Therefore, there would be minor impacts from the presence, use, handling, disposal, or transport of radioactive materials associated with construction and operation activities of Alternative 1; those impacts would not be significant.

4.8.3 Alternative 2

4.8.3.1 Program Sites

Construction/demolition activities under Alternative 2 would be the same as those described for Alternative 1 and would be conducted in areas that include former ER Program sites. The new commercial, residential, industrial, recreational, and conservation land uses under Alternative 2 would similarly operate on property that includes former ER Program sites.

As described for Alternative 1, the Navy's ER Program at the former NWS Concord is in various stages of completion depending on the ER Program site. Figure 4.8-3 shows the ER Program sites at the former NWS Concord in relation to the development districts proposed under Alternative 2. Table 4.8-1 summarizes the ER Program sites at the former NWS Concord, their current status under the ER Program, the type of Alternative 2 development district the site falls within, and whether ICs are anticipated to be part of the CERCLA remedy for the site. Prior to transfer or lease of the former NWS Concord property, the Navy will complete investigation and remediation activities under the ER Program and obtain the regulatory concurrences described in Section 4.8.1.1. Additionally, investigation and remediation activities and regulatory concurrences could be completed under the early transfer process discussed in Section 3.8.2.1.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\Environmental_Restoration_Sites_combined_Alternative_2_2017_01_19.mxd 7/27/2017

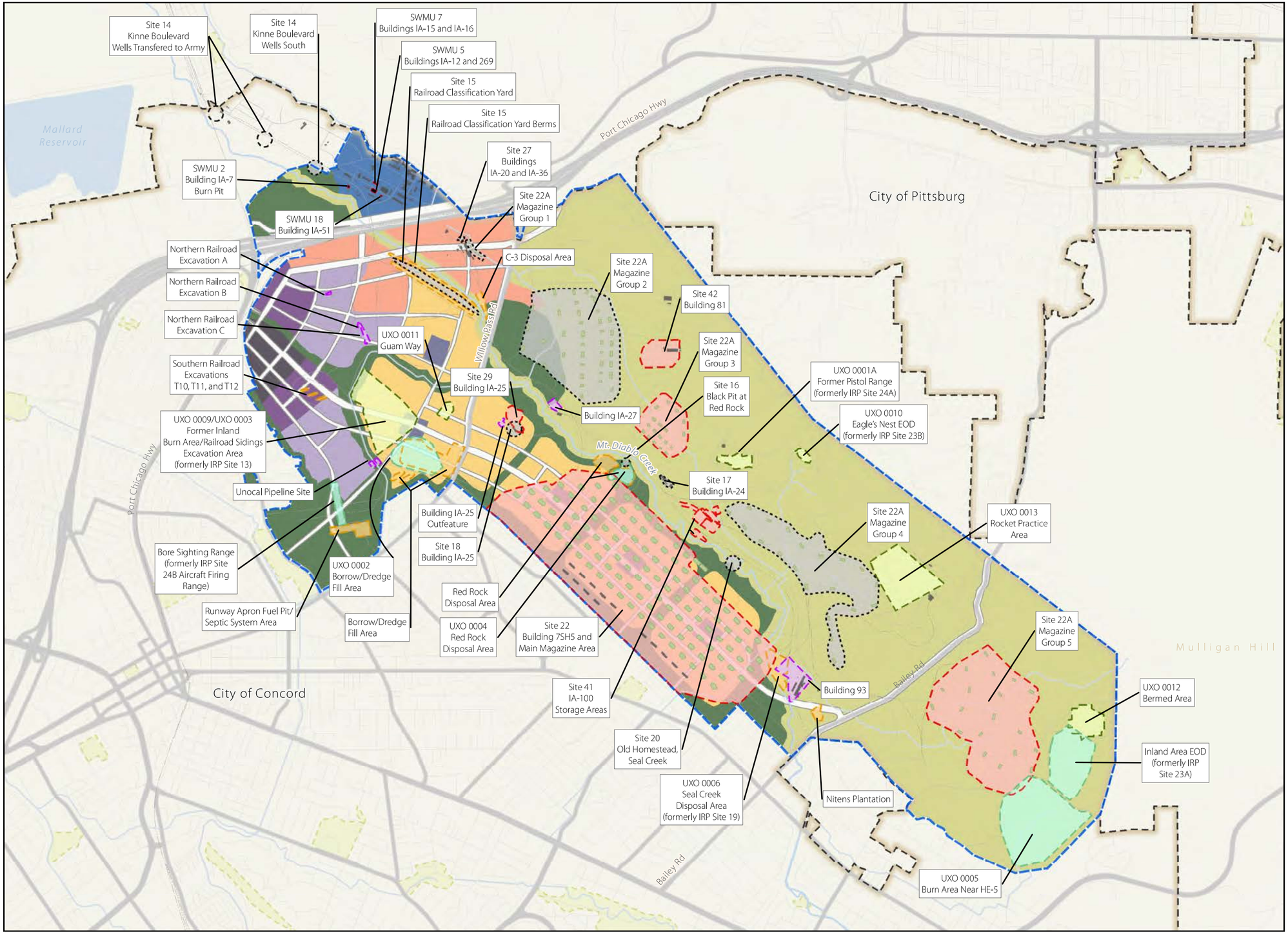


Figure 4.8-3
Alternative 2, ER Program Sites
Former NWS Concord
Concord, California

Legend

- Major Road
- Street
- Railroad
- Stream/Canal
- Roadways
- Former NWS Concord
- City Limit
- Waterbody
- Local Park
- Building
- Magazine
- Active Installation Restoration Program (IRP) Site
- Closed or No Further Action IRP Site
- Active Military Munitions Response Program (MMRP) Site
- Closed or No Further Action MMRP Site
- Closed or No Further Action Area of Potential Interest (AOPI) Site
- Preliminary Assesment/ Re-verification Investigation (PA/RVI) Site

*Alternative 2 Types of Districts

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- Greenways, Citywide Parks and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

N

SCALE

0 0.5 1 Miles

SOURCE: Navy 2006, 2008, 2014; ESRI 2010; Tetra Tech 2014. (See text for additional site-specific references)

This page intentionally left blank.

As described for Alternative 1 and established in the methodology described in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes or materials associated with construction and operation activities of Alternative 2 at former ER Program sites would be minimized to the extent practicable, and there would be no significant impacts. Also as discussed for Alternative 1, following the transfer of property from the Navy, the City of Concord would be responsible for review and approval of applications for development, would ensure that remediation has been approved by applicable regulatory agencies (in the event of early transfer), and would require that development activities be compatible with any remediation activities of the Navy or others.

4.8.3.2 Solid Waste Management Unit Sites

Construction/demolition activities under Alternative 2 would be the same as those described for Alternative 1 and would be conducted in areas that include former SWMU sites. The new commercial, residential, industrial, recreational, and conservation land uses under Alternative 2 would similarly operate on property that includes former SWMU sites.

As described for Alternative 1, four SWMU sites were transferred to the IRP, and the 33 remaining SWMU sites are not considered to require further investigation under RCRA and DTSC's hazardous waste regulations. Prior to transfer or lease of the former NWS Concord property, the Navy will compile appropriate DTSC concurrence and closure documentation for the 33 SWMU sites not transferred to the IRP.

As described for Alternative 1 and established in the methodology described in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes or materials associated with construction and operation activities of Alternative 2 at former SWMU sites would be minimized to the extent practicable, and there would be no significant impacts.

The City of Concord's review and approval process discussed under Alternative 1 would apply to redevelopment plans for former SWMU sites.

4.8.3.3 Radiological Sites

Construction/demolition activities under Alternative 2 would be the same as those described for Alternative 1 and would be conducted in areas that include former radiological sites. The new commercial, residential, industrial, recreational, and conservation land uses under Alternative 2 would similarly operate on property that includes former radiological sites.

As described for Alternative 1, the Navy is presently performing additional surveys for the 48 impacted sites identified by the HRA, and SI/Scoping Survey reports are in development. The surveys are being performed for subsurface soil, structures, and drainage systems characterized as having a contamination potential of "low." Figure 4.8-4 shows the impacted radiological sites designated by the HRA at the former NWS Concord in relation to the development districts proposed under Alternative 2. Table 4.8-2 summarizes the impacted radiological sites, the potential for contaminated media at each site as identified by the HRA, and the type of Alternative 2 development district the site falls within. Prior to transfer or lease of the former NWS Concord property, the Navy will complete investigation and remediation activities and obtain the appropriate regulatory concurrences, as described under Alternative 1.

As described for Alternative 1 and established in the methodology in Section 4.8.1.1, hazards to the public or the environment from the presence, use, handling, disposal, or transport of radioactive wastes or materials associated with construction and operation activities of Alternative 2 at former radiological sites would be minimized to the extent practicable, and there would be no significant impacts.

The City of Concord's review and approval process discussed under Alternative 1 would apply to redevelopment plans for former radiological sites.

4.8.3.4 Other Hazardous Waste/Materials Management

As with Alternative 1, construction/demolition and operational activities to accommodate new development under Alternative 2 would involve the routine use of hazardous materials and routine generation of hazardous wastes. Potential impacts associated with those activities would be the same as those described for Alternative 1.

4.8.4 No Action Alternative

Under the No Action Alternative, the former NWS Concord would not be disposed of and would remain a closed federal property under caretaker status. The property would not be reused or redeveloped. Environmental investigation and cleanup of ER Program sites, SWMU sites (which have already been recommended for no further action or transferred to the IRP), and radiological sites would continue until completion and would be performed in accordance with the regulatory requirements for those cleanups. Those regulations have been promulgated to ensure the continued protection of human health and the environment during and following investigation and remedial action.

Similarly, under the No Action Alternative, the Navy would continue to manage other hazardous waste and hazardous materials in accordance with the regulatory compliance programs it is currently following. For example, the Navy would continue to obtain final closure documentation as applicable for USTs and ASTs that have been removed. ACM and LBP would remain in unoccupied buildings because they are not a safety hazard. Any ACM and LBP in occupied buildings would be further evaluated if the ACM and LBP deteriorate and could create a human health or environmental hazard. PCBs in transformers and light ballasts from older fluorescent fixtures would be handled as a hazardous waste in accordance with applicable state and federal regulations if that equipment is removed as part of routine property maintenance.

There would be minimal hazards to the public and the environment, and therefore minor impacts, from the presence, use, handling, disposal, or transport of hazardous wastes and materials associated with completing regulatory cleanup programs and continuing caretaker-status activities under the No Action Alternative. Impacts under the No Action Alternative would not be significant.

4.9 Noise

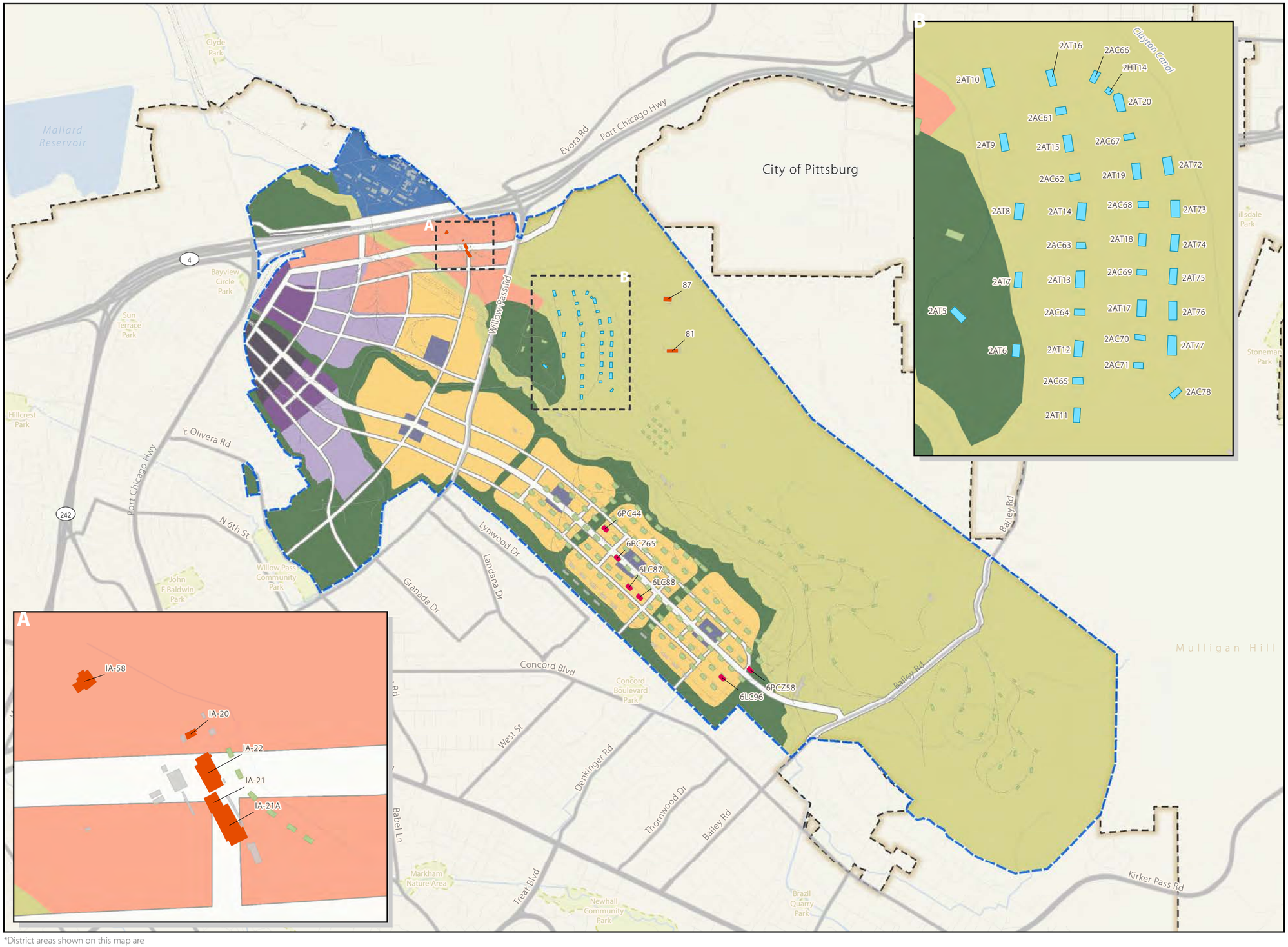
This section describes the potential impacts on the ambient noise environment resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. It includes an analysis of the potential construction and operation impacts resulting from reuse of the former NWS Concord property.

4.9.1 Alternative 1

4.9.1.1 Construction

Implementation of Alternative 1 would involve construction of diverse residential, commercial, and community structures distributed in nine development districts connected by public transit. Noise impacts during construction activities would include construction equipment operating on the site and delivery vehicles traveling to and from the site during regular working, daylight hours. Noise impacts would vary widely, depending on the phase of construction, the specific task being undertaken, and the size of the new development. During construction of any of the proposed development at the site, noise would be produced by operation of heavy-duty equipment from demolition, grading, clearing, pile-driving, paving, framing, landscaping, and other common urban construction activities.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Potential_Radiological_Sites_Alt2.mxd



*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

Figure 4.8-4
Alternative 2, Potential Radiological Sites
Former NWS Concord
Concord, California

Legend

- Major Highway
- Street
- Railroad
- Stream/Canal
- Roadways
- Former NWS Concord
- City Limit
- Waterbody
- Local Park

- Building
- Magazine

Potential Radiological Sites Identified by Historical Radiological Assessment:

- Building
- Depleted Uranium Munitions Storage Magazine
- Special Weapons Magazine

*Alternative 2 Types of Districts

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- Greenways, Citywide Parks, and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

SCALE

0 0.5 1 Miles

SOURCE: ESRI 2010; Naval Sea Systems Command 2010.

This page intentionally left blank.

Table 4.9-1 provides a summary of the predicted noise levels from the typical pieces of equipment expected to be used during the different phases of development proposed for Alternative 1. Construction noise impacts were estimated by the city using the Federal Highway Administration (FHA) reported maximum noise levels for construction equipment (FHA 2006). At a distance of 50 feet from a construction or demolition site, noise from the various types of equipment will, at times, range from 79 to 101 dBA.

Table 4.9-1 Estimated Noise Levels from Construction Equipment

Typical Equipment per Phase	Predicted Average Noise Levels (8-hour L_{eq}, in dBA)		
	25 feet	50 feet	100 feet
Demolition			
Track hoe	96	90	84
Crane	94	88	82
Excavator	91	85	79
Water Truck	94	88	82
Site Work			
Crawler Tractor	91	85	79
Grader	91	85	79
Loader	91	85	79
Compactor	88	82	76
Water truck	94	88	82
Pile driver	107	101	95
Foundation			
Backhoe	86	80	74
Loader	91	85	79
Forklift	85	79	73
Water truck	94	88	82
Utilities			
Backhoe	86	80	74
Water truck	94	88	82
Forklift	85	79	73
Slab on Grade			
Skip loader	88	82	76
Bobcat tractor	90	84	78
Forklift	85	79	73
Steel Erection			
Crane	94	88	82
Air compressor	87	81	75
Generator	87	81	75
Forklift	85	79	73
Decking/Slabs			
Generator	87	81	75
Forklift	85	79	73
Concrete pump	88	82	76
Completion			
Forklift	85	79	73

Source: City of Concord 2010

Noise-sensitive receptors are located around the site, including residential land uses along the western boundary of the former NWS Concord. In particular, noise-sensitive receptors along the Port Chicago Highway boundary and Willow Pass Road are likely to be exposed to a temporary increase in noise from construction activities due to the density of development proposed in this portion of the site.

Although the impacts of construction on noise-sensitive receptors are potentially significant, Concord General Plan Policy S-2.2.3 requires developers to reduce noise impacts of new developments on adjacent properties through appropriate means. Prior to approving a permit for development at the site to ensure that the city's policy is achieved, the city will require developers to demonstrate compliance with the following guidance:

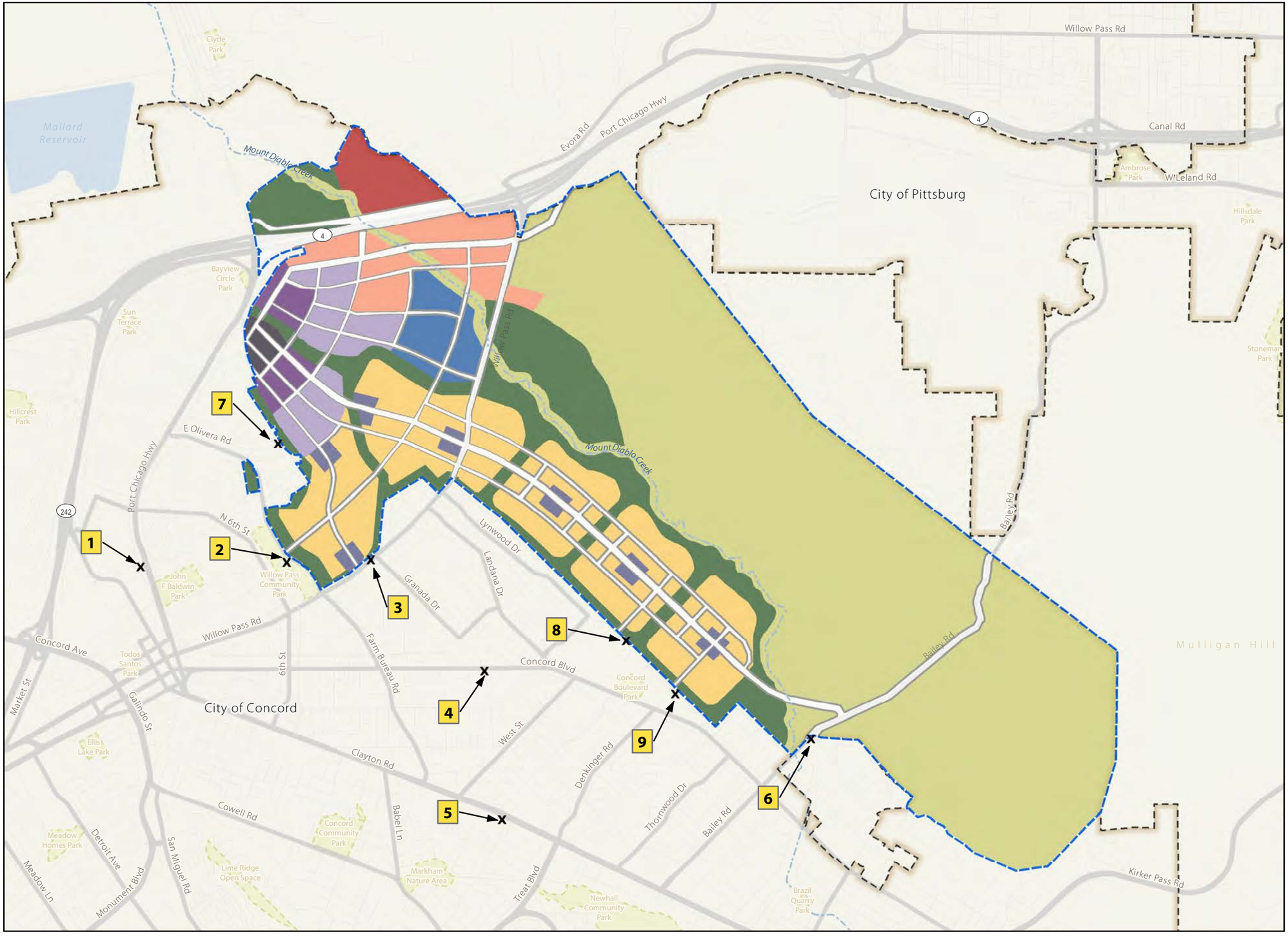
- Whenever construction occurs adjacent to occupied residences (onsite or offsite), temporary barriers shall be constructed around the construction sites to shield the ground floor from the noise-sensitive uses.
- Construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday; 8:00 a.m. to 5:00 p.m. on Saturday; and 12:00 p.m. to 4:00 p.m. on Sundays and holidays, or at such other hours that may be authorized and restricted by the permit, if they meet at least one of the following noise limitations:
    1. No individual piece of equipment shall produce a noise level exceeding 90 dBA L_{eq} at a distance of 25 feet. If the device is housed within a structure or trailer on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible.
    2. The noise level at any point outside the site boundary shall not exceed 90 dBA L_{eq}.
- Construction equipment staging areas shall be located as far as feasible from residential areas while still serving the needs of construction contractors.
- Quieter "sonic" pile drivers shall be used, unless engineering studies are submitted to the city showing this is not feasible and cost-effective, based on geotechnical considerations.
- Groundborne vibration impacts from construction activities shall be considered in the construction programs to minimize the disturbance to noise-sensitive receptors.
- Routes for heavy construction site vehicles shall be identified, and contractors shall be required to use them exclusively to minimize noise and vibration impacts on residences and noise-sensitive receptors.
- Activities that generate high noise levels—such as pile driving and the use of jackhammers, drills, and impact wrenches—shall be restricted to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday (City of Concord 2010).

4.9.1.2 Operation

Implementation of Alternative 1 would result in the extension of existing roads, construction of new roads, and increased traffic volumes associated with the proposed development within the former NWS Concord site.

The City of Concord conducted a noise assessment based on the traffic levels projected in the FEIR (City of Concord 2010). Table 4.9-2 presents anticipated increases in day-night average noise levels at identified locations near the former NWS Concord associated with the projected increase in traffic volumes. See Figure 4.9-1 for noise receptor locations.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Traffic_Noise_Prediction_Locations_Alternative_1.mxd



*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

Figure 4.9-1
Predicted Traffic Noise Receptor Locations
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Roadways

1. Port Chicago Highway and High School Avenue
2. East Olivera Road and Salvio Street
3. Willow Pass Road and Granada Drive
4. Concord Boulevard and Granada Drive
5. Clayton Road and Mendocino Drive
6. Bailey Road and Myrtle Road
7. East Olivera Road, Port Chicago Hwy and SR 4
8. West Street at Boundary with Proposed Site
9. Denkinger Street at Boundary with Proposed Site

***Alternative 1 Types of Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways and Citywide Parks
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

N

SCALE

0 0.5 1 Miles

SOURCE: City of Concord, 2010.

This page intentionally left blank.

Table 4.9-2 Predicted Traffic Noise Levels (Alternative 1)

Receptor No.	Location/Roadway Segment	Predicted Day-Night Noise Level (dB Ldn)		
		Existing Conditions	With Alternative 1	Increase in Noise Level
1	20 feet from Port Chicago Highway	74	77	3
2	25 feet from East Olivera Road and 25 feet from Salvio Street	72	73	1
3	25 feet from Willow Pass Road	74	76	2
4	25 feet from Concord Boulevard	76	78	2
5	25 feet from Clayton Road and 1,000 feet from West Street	79	80	1
6	25 feet from Bailey Road and 25 feet from Myrtle Road	73	74	1
7	1,000 feet from East Olivera Road; 2,000 feet from Port Chicago Highway; and 5,000 feet from SR 4	52	54	2
8	25 feet from West Street at the site of boundary (where road extension is proposed).	NA	68	NA
9	25 feet from Denkinger Road at the site boundary	61	68	7

Source: City of Concord 2010

Long-term effects on existing noise levels due to the projected increase of vehicular traffic associated with the development of Alternative 1 would be significant and localized at closest sensitive receptors.

The FHWA provides policies and guidance for the analysis of highway traffic noise and abatement of highway traffic noise. FHWA-established criteria that represent the upper limit of acceptable traffic noise levels in areas based on defined land use are identified in Table 4.9-3.

Noise impacts occur when the predicted traffic noise levels approach within 1 dBA of the noise abatement criteria (see Table 4.9-3) corresponding equivalent sound level (FHA 1995). Based on this, 66 dBA effectively becomes the noise abatement criterion for the residential land use category, or when the predicted traffic noise levels substantially exceed (are more than 15 dBA) the existing noise levels. Traffic noise impacts can occur below the noise abatement criteria. The noise abatement criteria should not be viewed as federal standards or desirable noise levels. The noise abatement criteria should only be used as absolute values that, when approached or exceeded, require that traffic noise abatement measures be considered.

Table 4.9-3 Traffic Noise Abatement Criteria, Hourly A-weighted Sound Level (dBA)

Activity Category	$L_{EQ}(H)$[1]	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[2]	67 (Exterior)	Residential

Table 4.9-3 Traffic Noise Abatement Criteria, Hourly A-weighted Sound Level (dBA)

Activity Category	$L_{EQ}(H)$[1]	Description of Activity Category
C[2]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E[2]	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	Undeveloped lands that are not permitted

Source: FHA 2011.

[1] Hourly A-Weighted Sound Level in decibels (dBA).

[2] Includes undeveloped lands permitted for this activity category

Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals, consult with agencies, and add conditions to permits for such proposals that will address environmental impacts determined to be significant. For noise, either the city or individual project proponents will be required to obtain any necessary permits from state and federal agencies prior to construction, conduct acoustical analyses for the proposed new uses, and adjust proposed construction techniques and materials to provide sufficient acoustical insulation and reduce effects on noise-sensitive receptors to the extent feasible. Noise mitigation measures specifically identified in the MMRP include:

- The city shall require that new extensions of West Street and Denkinger Road shall be constructed using low-noise road surfaces, and to incorporate grading measures such as berms or other barriers to screen noise. The city will also require developers to fund grants that will allow noise-sensitive receptors to install acoustical insulation.
- Before the City of Concord grants approval for any residential uses on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the city shall require developers to conduct an acoustical analysis and that it be submitted to and accepted by the city. New residential development must demonstrate that the city's "normally acceptable" noise standard can be achieved in exterior living spaces.
- Before the City of Concord grants approval for any commercial uses on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the city shall require developers to conduct an acoustical analysis that it be submitted to and accepted by the city. Construction of buildings for commercial use on land that is exposed to noise levels above the city's noise standard shall include only be undertaken after a detailed analysis of the noise reduction and noise insulation features needed to comply with city standards.
- Before the City of Concord grants approval for any public parks on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the city

shall require developers to conduct an acoustical analysis that it be submitted to and accepted by the city. Public parks shall use grading measures and setbacks to mitigate traffic noise from adjacent roads.

- Before the City of Concord grants approval for any schools on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the city shall require developers to conduct an acoustical analysis that it be submitted to and accepted by the city. Schools shall use grading measures and setbacks to mitigate traffic noise from adjacent roads.

Increase of ambient noise levels associated with the increase in vehicular traffic would be a significant, long-term, and area-wide effect on closest sensitive receptors. However, effects on noise-sensitive receptors exposed to long-term ambient noise increases due to traffic noise from adjacent roads would be reduced by implementation of the mitigation measures described above.

Development of Alternative 1 would involve the construction and operation of a tournament facility, which would be located adjacent to complementary uses within the Commercial Flex district. Potential adjacent uses would also involve open space and residential. The specific layout and location of this facility would be defined at a project level; however, it is expected that, once in operation, it would involve periodic events with public attendance and related traffic increases, the use of sound reinforcement, and public address systems. During each periodic event, ambient noise levels would be increased over the community annoyance threshold of 5 dBA defined by Federal Trade Administration (FTA) and other applicable guidance, resulting in a localized, short-term, moderate effect on closest noise-sensitive receptors.

To reduce potential effects on noise-sensitive receptors, the city will require that a noise analysis be conducted to determine the likely increase to exterior noise levels at noise-sensitive receptors during sports events and develop appropriate mitigation measures to reduce noise impacts.

Implementation of the mitigation measure mentioned above would reduce the intensity of the impact from moderate to minor level, potentially reducing the increase of exterior noise below the community noise annoyance threshold of 5 dBA. Therefore, no further mitigation would be required.

Implementation of Alternative 1 would result in new land uses within the former NWS Concord site that would expose sensitive receptors to new sources of noise. Sensitive receptors would also increase over time, as development of the proposed districts would happen in phases and new residents would move into the developed areas. New noise sources would involve construction and long-term use of residential, commercial, and community use buildings and public spaces; vehicular traffic; rail system use; as well as permanent sources associated with the proposed urban development, such as heating, ventilation, and air conditioning (HVAC) systems and utility transformers.

The City of Concord General Plan establishes exterior noise standards for residential uses of 60 dBA L_{dn} for low density use, and 64 dBA L_{dn} for multi-family, mixed-use, high-density developments. The exterior noise standard for commercial, community land uses, public parks, and schools is 69 dBA L_{dn}. Moreover, the California Building Standards Code requires that interior noise levels attributable to exterior sources shall not exceed 45 dBA L_{dn} in any residence or hotel guest room.

As shown in Tables 4.9-1 and 4.9-2, traffic/rail and construction noise sources associated with the development of Alternative 1 would expose the closest residential and commercial and other community sensitive land uses to levels above the city exterior noise standards. Exposure to noise levels in excess of

the city standards would be significant, localized, and long-term, except for those sources associated with construction activities.

To minimize the exposure of residential receptors to noise levels in excess of the city standards and the California Building Code, the City of Concord would require developers to use intervening structures and barriers to screen noise-sensitive land uses from new sources. Pursuant to the California Building Standard Codes, an acoustical analysis needs to be conducted in order to demonstrate that the interior noise standard is achieved in areas where exterior noise levels exceed 60 dBA L_{dn}. In addition, the city has adopted the following mitigation measures to reduce the exposure of persons to generation of noise in excess of applicable standards:

- Before the City of Concord grants approval for any buildings that include habitable rooms on parcels on lands along the BART and SR 4 corridors and along Willow Pass Road, the city shall require developers to conduct an acoustical analysis and that it be submitted to and accepted by the city demonstrating that the 45 dBA Ldn standard is achieved. With implementation of this mitigation measure, this potentially significant impact would be reduced to a level that is less than significant.
- The City of Concord shall require any new development of the site to include noise control measures at stationary sources to reduce impacts on noise sensitive receptors. Prior to the issuance of building permits, the city shall require developers to submit engineering and acoustical specifications for project mechanical HVAC and utility transformers (including generators) to the Planning Department or other appropriate department, demonstrating that the equipment design (types, location, enclosure, specifications) could control noise from the equipment to at least 10 dB(A) below existing ambient noise levels at nearby residential and other noise-sensitive land uses.

Implementation of the city's mitigation measures above would ensure construction and future long-term use of the proposed Alternative 1 development districts provide noise controls and reduce exposure of sensitive receptors to levels above the city and state community noise and building standards. While the extension of noise exposure would remain localized and long term for most cases, the acoustical analysis and the use of noise-reducing design, building materials, and construction techniques would reduce effects on closest sensitive receptors to moderate to minor levels of intensity.

Implementation of Alternative 1 would involve two major sources of noticeable vibration: construction activities and increased rail system operations. Because roadway traffic with rubber tires generates low levels of vibration, construction activities and rail use are the most likely cause of noticeable vibration; however, effects from vehicle traffic on sensitive receptors located in the proximity of SR 4 have been considered for the purposes of this analysis.

Vibration effects are usually related to one single event or activity and generally are dependent upon the distance from the source to the closest receptors, the type of soils in the area, and the presence of barriers. The soils at the entire site have been reported as soils, not rock (City of Concord 2010). As discussed above, sensitive land uses (residences) are currently located adjacent to the western boundary of the site. Presence of sensitive receptors would increase over time, as new residents and other sensitive land uses are established within developed areas within the proposed Alternative 1 site. Due to the proximity of sensitive land uses, it is expected that effects of vibration sources would be noticeable to closest receptors.

During construction, groundborne vibration is generally associated with the use of heavy-duty equipment and vehicles, as well as with the use of ground-breaking construction techniques such as demolition, excavation, pile-driving, blasting, compaction, and paving. Pile-driving could be most noticeable within

buildings or near the construction sites, resulting in annoyance to local residents and occupants of commercial and community uses. Vibration associated with pile-driving has been reported as 104 and 112 vibration velocity level in decibels (VdB) at 25 feet (FTA 2005).

To mitigate the impacts of vibration noise, the City of Concord would require developers to demonstrate compliance with construction vibration controls, such as the following:

- Use of quieter "sonic" pile drivers, unless engineering studies are submitted to the city showing this is not feasible and cost-effective, based on geotechnical considerations.
- Consideration of groundborne vibration impact reductions in construction programs
- Use of routes for heavy construction site vehicles shall be identified and contractors shall be required to use them exclusively to minimize noise and vibration impacts on residences and noise-sensitive receptors.
- Hour limits to activities that generate high noise levels—such as pile driving and the use of jackhammers, drills, and impact wrenches—shall be restricted to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday.

Effects during construction would be generally moderate in intensity, localized, and short term. Implementation of controls proposed by the city focused on controls over major groundborne noise and vibration sources that would reduce effects from a moderate to minor intensity.

During long-term development of Alternative 1, roadway traffic and operation of the BART system would be the major sources of vibration. Measurements conducted by the City of Concord in proximity to the BART corridor and SR 4 have been reported to be below the thresholds established by the FTA general assessment methodology for sensitive and uses. Therefore, no specific measures for permanent, long-term, vibration effects associated with rail use and traffic have been identified.

Overall, adverse impacts associated with construction and operation noise of Alternative 1 would not be significant, with the implementation of mitigation.

4.9.2 Alternative 2

Alternative 2 has a slightly smaller development footprint than Alternative 1 and is generally consistent with the policies developed by the City of Concord during the reuse planning process but represents a higher intensity of use overall, resulting from a slightly different land use pattern and increased residential development.

However, the impact of the construction and full build-out of Alternative 2 on the ambient noise environment would be similar to that described for Alternative 1 at the programmatic level analyzed. Measures identified by the City of Concord to mitigate the noise impacts under Alternative 1 would similarly apply to Alternative 2.

Therefore, no significant adverse impacts associated with construction or operation noise would result from Alternative 2 with the implementation of mitigation.

4.9.3 No Action Alternative

The No Action Alternative is the retention of the former NWS Concord property by the U.S. government in caretaker status. No reuse or redevelopment of the property would occur. Noise sources associated with the current approved uses of the property would remain until the leases expire or the Navy decides to

renew the lease. Existing noise uses are equipment and vehicle use associated with the remedial and environmental cleanup activities underway at the site, as well as general maintenance of the property.

4.10 Public Services

This section describes the potential impacts on public services resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. It includes an examination of direct and indirect impacts on educational facilities; public safety, emergency, and health care facilities; and open space, parks, and recreation. The study area includes the former NWS Concord, the City of Concord, the City of Pittsburg, and Contra Costa County.

4.10.1 Alternative 1

4.10.1.1 Educational Facilities

Implementation of Alternative 1 would affect the provision of educational services in the City of Concord by increasing the number of school-aged children in the city and by providing for new development of educational facilities.

As discussed in Section 4.3, the population in the City of Concord is estimated to increase by 31,462 residents, based on the projected number of housing units in the Area Plan. Assuming full build-out of Alternative 1 and full occupancy of all residential units, an estimated 4,924 school-aged children would be living in these new units and would require educational services.

The estimate of the number of school-aged children was developed utilizing data for the City of Concord from the U.S. Census Bureau's 2015 American Community Survey on school enrollment, population by housing type, and number of housing units within a structure. These data were used to provide a demographic multiplier that was then applied to the projected number of multi- and single-family housing units to estimate the number of school-aged children, as shown on Table 4.10-1.

In accordance with the City of Concord's 2030 General Plan, approximately 47 percent of the students would attend elementary schools (grades kindergarten through 5), 27 percent of the students would be in middle schools (grades 6 through 8), and 26 percent would be in high schools (grades 9 through 12). The number of school-aged children by grade is also shown on Table 4.10-1.

As shown on the table, if current public school enrollment rates remain constant, full build-out of Alternative 1 would result in the addition of 2,314 elementary school students, 1,330 middle school students, and 1,280 high school students to the MDUSD, for a total of 4,924 students. The projected number of school-aged children after full build-out of Alternative 1 would represent approximately 15 percent of the current student enrollment in the MDUSD and would approximate the level of enrollment in the early 2000s, before enrollment in the district began to decline.

In 2010, the district began a process of redistricting, which included some school closures (Education Data Partnership 2011-2013). With the projected increase in population, old facilities may need to be reopened or new school facilities constructed.

Under Alternative 1, approximately 98.9 acres of land within the former NWS Concord would be allocated toward new elementary, middle school, and high school educational facilities within the former NWS Concord property (City of Concord 2010). Table 4.10-2 shows the allocated acreage by type of school. The City of Concord has proposed that four elementary schools, one middle school, and one high school would be constructed to meet the demand generated by new residents (City of Concord 2010).

Table 4.10-1 School-aged Population Projections by Grade Level at Full Build-out under Alternative 1

Type of Residential Unit	Projected Number of Units	Residential Demographic Multiplier	Projected Total Number of School-aged Children	Projected Number of School-aged Children (grades K-5)	Projected Number of School-aged Children (grades 6-8)	Projected Number of School-aged children (grades 9-12)
Multi-Unit Housing and Mixed-Use, Multi-Unit Housing	7,800	.377	2,940	1,382	794	764
Single-Family Detached, Single-Family Attached, and Moderate-Density Townhomes	4,400	.451	1,984	932	536	516
Total	**12,200**		**4,924**	**2,314**	**1,330**	**1,280**

Sources: City of Concord 2010; U.S. Census Bureau n.d.(a), (b), (c).

Table 4.10-2 Alternative 1 – Allocated Acreage for K-12 Schools

Type of School	Allocated Acreage
Elementary (K-5)	40.2
Middle (6-8)	25
High School (9-12)	33.7
Total	**98.9**

Source: City of Concord 2010

Allocation of this land for public schools ensures compliance with Policy PF-2.1.6 of the 2030 General Plan, which requires that future planning for the former NWS Concord include adequate land for schools.

In addition, the Leroy F. Greene School Facilities Act of 1998 authorizes local school districts to levy statutory development fees on new construction within their jurisdiction that would provide for "full and complete school facilities mitigation." In other words, the MDUSD is allowed to levy development fees on construction at the former NWS Concord that would provide sufficient funding to build any necessary additional schools. Currently, the MDUSD requires developers to pay $3.48 per square foot of assessable space for residential construction, $0.56 per square foot of covered and enclosed space for commercial/industrial construction, and $0.23 per square foot for rental mini-storage space (MDUSD 2016).

Additional operating expenses are expected to be covered through the growth of the local tax base. Currently, the former NWS Concord is nontaxable federal property, generating no property or school tax revenues. Once the disposal and reuse process of the property is complete, the residential and commercial property would become taxable, thus expanding the potential property tax revenues from the former NWS Concord.

Growth in the school-aged population resulting from Alternative 1 would be directly related to the rate of re-occupancy of the property. Increases in municipal expenses associated with an increased demand for educational services under Alternative 1 are assumed to be offset by a proportional growth in the tax base as the former installation is developed and people purchase or rent housing on the property. Property taxes levied against new development on the site would generate new funding to allow for the operation of new schools on allocated land. Because additional land would be allocated toward the development of schools and new development would create additional funding sources, implementation of Alternative 1, while necessitating an expansion of schools, would not result in a significant, long-term impact on educational services.

4.10.1.2 Public Safety, Emergency, and Health Care Facilities

Police Protection

Implementation of Alternative 1 would affect the provision of police protection services in the City of Concord by increasing the residential population and workforce in the city, and by providing for new development of public safety facilities.

With the transfer of the former NWS Concord from the Navy, the CCPD would expand its jurisdiction to include the site area. Reuse of the site in a manner consistent with Alternative 1 would include up to 12,200 new residential units as well as non-residential space, including offices, retails shops, schools, and recreational areas, under the jurisdiction of the CCPD. Implementation of Alternative 1 would support an increased residential population of 32,387 and a workforce of approximately 22,714.

Expansion of the service area and the increased number of residents living and working in the city would generate additional demands on the CCPD and expenses for the CCPD to provide additional services. The CCPD has indicated that this increase in demand would require a future expansion of staffing and equipment (Contra Costa LAFCO 2011). In 2015, the CCPD provided approximately 1.3 police officers per 1,000 city residents. Maintaining this ratio with the projected population increase under Alternative 1 would require an estimated 24 additional police officers. In addition, a commensurate amount of equipment would be required to support these additional police officers.

The existing police headquarters building could accommodate the projected increase in police officers based on the standard of 200 square feet of police station area per 1,000 city residents that is stated in the City of Concord's 2030 General Plan. The square footage of the existing police headquarters building can serve up to 335,000 residents based on this standard; thus, expansion of the existing police headquarters would not be necessary. However, as described in Section 2.2.3.2, Alternative 1 also provides for the possibility that the CCPD may establish a field office at the former NWS Concord site.

In addition, under Alternative 1, the City of Concord proposes to construct a First Responder Training Center. Located north of SR 4, this development district would include 80 acres of training grounds and related facilities to support regional first responders such as the Contra Costa County sheriff's and fire departments. Additionally, the EPRPD Police Department would patrol the proposed conservation open space area (EBRPD 2014c).

Because development of the site would occur incrementally over approximately 25 years, CCPD services would be expanded slowly, on an as-needed basis. Costs incurred from expanding the CCPD service area are anticipated to be offset by property taxes generated from the development. Similarly, EBRPD police services are primarily funded by property tax revenue (EBRPD 2013a, 2014d), and increases in service costs would be partially offset by increased tax revenues. Refer to the taxes and revenues discussion in Section 4.3. Therefore, reuse of the site in a manner consistent with Alternative 1 is not expected to result in any significant, long-term impacts on police protection services.

Fire Protection and Emergency Medical Services

Implementation of Alternative 1 would affect the provision of fire protection and EMS in the City of Concord by increasing the residential population and workforce in the city and by providing for new development of emergency response facilities. With the transfer of the former NWS Concord from the Navy, the CCCFPD would expand its jurisdiction to include the site area. Reuse of the site in a manner consistent with Alternative 1 would include up to 12,200 new residential units as well as non-residential space, including offices, retails shops, schools, and recreational areas, under the jurisdiction of the CCCFPD. The implementation of Alternative 1 would support an increased residential population of 31,462 and a workforce of approximately 26,537.

Expansion of the service area and the increased number of residents and personnel living in the city would generate additional demands and expenses for the CCCFPD to provide additional services. As discussed in Section 3.10, 25 fire stations currently serve approximately 546,220 residents, for a ratio of one fire station per 21,849 people. Additionally, as of January 2015, the fire district had a total of 252 fire suppression personnel, resulting in a ratio of approximately 0.46 firefighting personnel per 1,000 residents. In order to maintain levels of service similar to the existing levels upon implementation of Alternative 1, two additional fire stations would need to be developed. To effectively man these two additional fire stations a minimum of 18 additional fire suppression personnel would be needed. In addition, a commensurate number of fire trucks and equipment would be required to support these additional fire fighters.

However, as described in Section 2.2.3.2, Alternative 1 also provides for the possibility that two new fire stations will be needed to serve the site. If it is not feasible to rehabilitate the Inland Firehouse, two new stations will be constructed. The location of the future fire stations serving the site, along with funding for the stations, will be determined by the city in conjunction with the Contra Costa County Fire District through one or more later, project-specific local planning processes. The Army currently operates an emergency response facility at the Military Ocean Terminal Concord (MOTCO) that is anticipated to be available for mutual aid response so long as MOTCO is in operation. In addition, the City of Concord proposes to construct a First Responder Training Center. Located north of SR 4, this development district would include 80 acres of training grounds and related facilities to support regional first responders such as the Contra Costa County sheriff's and fire departments. Additionally, the EBRPD Fire Department would provide emergency services for the proposed conservation open space area (EBRPD 2014c).

Likewise, as discussed in Section 3.10, the City of Concord, CCCFPD, and future project proponents will work together through a specific plan (or other detailed planning) process to define the number and location of fire facilities needed to support the development, when to provide any additional facilities, and funding for those facilities. Therefore, while additional fire stations and equipment would be required to accommodate the expected population growth associated with implementation of Alternative 1, the results of the specific plan would ensure that sufficient property and revenues would be identified and made available to meet these capital expenditures.

The CCCFPD receives the majority of its operating revenues from property tax receipts. EBRPD fire and emergency services are also primarily funded by property tax revenue (EBRPD 2013a, 2014d). As Alternative 1 is implemented and as private development occurs, the local tax base and thus local property tax receipts would increase. This growth in the property tax receipts is expected to offset any additional operational costs associated with the expanded service area and service population. Therefore, implementation of Alternative 1, while necessitating an expansion of fire protection services, would not result in a significant, long-term impact on fire protection in the city.

EMS services at the former NWS Concord site are expected to be supplied by the CCCFPD via a private contractor, as is currently provided in the City of Concord. An increase in EMS personnel and equipment serving the City of Concord would be required to service the additional population and the larger area if similar response times throughout the city are to be maintained. Contractual agreements with the private firm would ensure that the necessary additional personnel and equipment were supplied to the site. The increase in property tax receipts generated by the development and received by the CCCFPD is expected to be sufficient to offset any additional costs associated with the increase in EMS service. Therefore, no significant long-term impacts are expected to occur to EMS services in the City of Concord as a result of implementation of Alternative 1.

Health Care Facilities

Implementation of Alternative 1 would affect the provision of health care services in the City of Concord by increasing the residential population and workforce in the city and by providing for new development of emergency response facilities.

With the transfer of the former NWS Concord from the Navy, reuse of the site in a manner consistent with Alternative 1 would include up to 12,200 new residential units as well as non-residential space, including offices, retails shops, schools, and recreational areas. The implementation of Alternative 1 would support an increased residential population of 31,462 and a workforce of approximately 26,537.

Any growth in population resulting from the reuse of the former NWS Concord site would increase the demands on the existing local and regional healthcare systems.

Based upon statewide per capita health service levels, it is projected that full build-out of Alternative 1 would generate an additional 9,200 emergency room visits; 2,800 hospital admissions; 44,000 outpatient visits, and 14,300 inpatient visits annually. Table 4.10-3 presents the healthcare service projections for Alternative 1.

Table 4.10-3 Projected Annual Public Hospital Utilization at Full Build-Out

Hospital Service	Service Level per 1,000 Population	Projected Increase in Service Needs
Hospital Emergency Room Visits	294	9,200
Hospital Admissions	90	2,800
Outpatient Visits	1,398	44,000
Inpatient Visits	454	14,300

Kaiser Family Foundation 20011a, 2011b, 2011c, and 2011d.

Although the demand for health care would increase, Alternative 1 would be implemented over a 25-year timeframe in increments, and private health care and medical providers would have sufficient time to increase their facilities to accommodate this additional demand. Therefore, Alternative 1 would not negatively impact the provision of health care in the City of Concord. No significant impacts are projected to occur.

4.10.1.3 Open Space, Parks and Recreation

Implementation of Alternative 1 would affect the use of open space, parks, and recreation in the City of Concord and regionally by increasing the residential population in the city and by providing for new development of open space, parks, and recreational facilities. Disposal and reuse of the former NWS Concord in a manner consistent with Alternative 1 would include up to 12,200 new residential units, which would support an increased residential population of 31,462.

While increasing the population in the City of Concord and, therefore, the demand on and use and availability of open space, parks, and recreational facilities, the proposed implementation of Alternative 1 would also provide for new areas of open space and parks, and for recreational facilities.

As described in Section 2.2.3, Alternative 1 provides for development of approximately 786 acres of greenways, citywide parks, and active recreational areas. Reuse of the former NWS Concord would include a Central Greenway that would extend throughout the site along Mt. Diablo Creek, adjacent to the northern boundaries of the Village Neighborhoods, and through the Central Neighborhood, TOD, and Campus districts. This greenway would be a minimum of 100 feet wide and occupy approximately 380 acres of the site.

Neighborhood frame greenways would also be located along the southwest perimeter of the site, mostly adjacent to the Village Centers. These greenways would provide a transition space between development districts and existing neighborhoods adjacent to the site. The neighborhood frame greenways would range between 275 feet and 425 feet wide between existing Concord neighborhoods and villages, and between 150 feet and 500 feet wide between proposed villages, for a total of approximately 98 acres.

Three city parks would be created. These parks would be located adjacent to the proposed Campus district, adjacent to the existing Willow Pass Park, and at the location of the existing municipal Diablo Creek Golf Course. Each proposed citywide park would be approximately 45 to 100 acres, for an approximate total of 308 acres.

The city park adjacent to the Campus district would include an approximately 75-acre tournament sports facility. This facility would provide space for regional adult and youth tournaments, and may include softball, baseball, and soccer fields, as well as volleyball courts, batting cages, and other sports facilities.

Smaller pocket parks between 0.25 and 2 acres would be located throughout the plan area, as would neighborhood parks between 2 and 10 acres in size. The North Concord Plaza would be located at the entryway to the North Concord/Martinez BART Station and would provide pedestrian connections between the BART station and other modes of transportation. The plaza would range between 0.5 acre and 5 acres.

In addition, approximately 2,537 acres of the eastern side of the former NWS Concord is proposed for a regional park. The planned addition of 786 acres of greenways, citywide parks, and active recreational areas at the former NWS Concord site would result in approximately 25.0 acres of greenways, citywide parks, and active recreational areas per 1,000 residents on the former NWS Concord site. This exceeds the City of Concord's General Plan Growth Management Policy 2.1.1, which requires new development to dedicate parkland at a ratio of 5 acres for every 1,000 residents. It would also result in an increase in the city's overall park-area-to-population ratio by increasing the area of parkland per person citywide to 9 acres per 1,000 residents. The proposed increase in greenways, citywide parks, and active recreational areas supports the City of Concord's General Plan Policy 1.1.1 goal of 6 acres of parkland per 1,000 residents. This would result in significant, long-term beneficial impacts on the demands for recreational services and facilities.

4.10.2 Alternative 2

4.10.2.1 Educational Facilities

Similar to Alternative 1, Alternative 2 would affect the provision of educational services in the City of Concord by increasing the number of school-aged children residing in the city and by providing for the development of new educational facilities. Based on the methodology described for Alternative 1, an estimated 6,309 school-aged children (2,965 elementary-school-aged children; 1,703 middle-school-aged children; and 1,641 high-school-aged children) would live in the new residential units that would be constructed under Alternative 2.

The impacts associated with these additional children would be similar to those described for Alternative 1. The need for additional schools to serve these children would be met the same way as described for Alternative 1. Approximately 98.9 acres of land within the former NWS Concord property would be allocated toward new elementary, middle, and high school facilities. Development fees would be collected on the new construction to cover the capital costs associated with building the new facilities. Additional ad valorem property tax revenues generated from the development under Alternative 2 would be used to meet the operational costs associated with the additional school-aged children. Because additional land would be allocated toward the development of schools and new development would create additional funding sources, implementation of Alternative 2, while necessitating an expansion of schools, would not result in a significant, long-term impact on educational services.

4.10.2.2 Public Safety, Emergency, and Health Care Facilities

Police Protection

Similarly to Alternative 1, Alternative 2 would affect the provision of police protection services in the City of Concord by increasing the residential population and workforce in the city, and by providing for new development of public safety facilities. The impacts associated with these additional residents would be similar to those described for Alternative 1. Approximately 52 additional police officers would need to

be added to the CCPD after implementation of Alternative 2 if the current ratio of 1.3 police officers per 1,000 residents is to be maintained. However, under Alternative 2, the City of Concord does not propose to construct the First Responder Training Center at the former NWS Concord site.

Costs incurred from expanding the CCPD service area are anticipated to be offset by property taxes generated from the development of the former NWS Concord site. Therefore, reuse of the site in a manner consistent with Alternative 2 is not expected to result in any significant, long-term impacts on police protection in the City of Concord.

Fire Protection and Emergency Medical Services

Implementation of Alternative 2 would affect the provision of fire protection and emergency medical services in the City of Concord by increasing the residential population and workforce in the city, and by providing for new development of emergency response facilities. The impacts associated with these additional residents would be similar to those described for Alternative 1. Two additional fire stations and approximately 19 additional fire fighters would need to be added to the department to maintain existing levels of service under Alternative 2. In addition, a commensurate number of fire trucks and equipment would be required to support these additional fire fighters. However, under Alternative 2, the City of Concord does not propose to construct the First Responder Training Center at the former NWS Concord site.

Costs incurred from expanding the CCCFPD service area are anticipated to be considered during the specific plan process and be offset by funding sources identified during this process and from property taxes generated from the development of the former NWS Concord site. Therefore, reuse of the site in a manner consistent with Alternative 2 is not expected to result in any significant, long-term impacts on fire protection in the City of Concord. An increase in EMS personnel and equipment serving the City of Concord would be required to service the additional population and the larger area if similar response times throughout the city are to be maintained. Contractual agreements with a private firm would ensure that the necessary additional personnel and equipment were supplied to the site. The increase in property tax receipts generated by the development and received by the CCCFPD is expected to be sufficient to offset any additional costs associated with the increase in EMS service.

Health Care Facilities

Implementation of Alternative 2 would affect the provision of health care services in the City of Concord by increasing the residential population and workforce in the city, and by providing for new development of emergency response facilities. The impacts associated with these additional residents would be similar to those described for Alternative 1. Alternative 2 would generate approximately 11,900 emergency room visits; 3,600 hospital admissions; 56,400 outpatient visits; and 18,700 inpatient visits annually.

As described in detail under the discussion of Alternative 1, the potential that new medical facilities could be built within the former NWS Concord if demand warranted it, and the long timeframe and incremental nature of the build-out would ensure that Alternative 2 would not result in a significant, long-term impact on the provision of health care services in the city.

4.10.2.3 Open Space, Parks, and Recreation

Implementation of Alternative 2 would affect the use of open space, parks, and recreation in the City of Concord and regionally by increasing the residential population in the city, and by providing for new development of open space, parks, and recreational facilities.

The proposed new open space, parks, and recreational facilities under Alternative 2 would be identical to those described for Alternative 1. Alternative 2 would provide for the development of approximately 786 acres of greenways, citywide parks, and active recreational areas. In addition, approximately 2,537 acres

of the eastern side of the former NWS Concord is proposed as a regional park for passive recreation and open space uses.

The planned addition of 786 acres of greenways, citywide parks, and active recreational areas at the former NWS Concord site would result in approximately 19.4 acres of greenways, citywide parks, and active recreational areas per 1,000 residents on the former NWS Concord site under Alternative 2. This ratio would exceed the City of Concord's policy of requiring new development to dedicate parkland at a ratio of 5 acres for every 1,000 residents. Therefore, reuse of the site in a manner consistent with Alternative 2 is expected to result in significant, beneficial, long-term impacts on the provision of parkland and open space in the City of Concord.

4.10.3 No Action Alternative

Under the No Action Alternative, the former NWS Concord would be retained by the U.S. government in caretaker status, and reuse of the installation would not occur. The Navy would continue to maintain some form of vegetation management in areas of the site. In accordance with the BRAC PMO Building, Vacating, Facility Layaway, and Caretaker Maintenance Guidance (March 2007) document, conditions adversely affecting public health, the environment, and safety would be addressed under the No Action Alternative.

4.11 Transportation, Traffic, and Circulation

This section summarizes the analysis completed in the *Transportation Impact Study: Former Naval Weapons Station Seal Beach Detachment Concord* (Kittelson & Associates, Inc., 2016), which was conducted to evaluate the potential transportation impacts from the disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. As discussed in Section 3.11, the study area for the transportation impact analysis included five roadway segments, 12 freeway segments, 21 freeway ramps, and 28 intersections. The locations of these roadways, freeways, ramps, and intersections are shown on Figure 3.11-3.

4.11.1 Methodology

The transportation impact study that was conducted used the latest travel demand model adopted by CCTA to evaluate the impact of the full build-out of the former NWS Concord on existing traffic volumes and operation of the roadway network at a programmatic level. Traffic impacts associated with construction and operation during specific project phases will be addressed under the CEQA consistent with the design review and permitting process by the City of Concord. The following discussion provides some of the background assumptions for conducting the transportation impact study and also explains why the results of the transportation impact study differ from the results presented in the 2012 Area Plan EIR Addendum.

The CCTA model estimates travel behavior and travel demand for the proposed reuses at the former NWS Concord in the context of the current and future population, surrounding land uses, and transportation systems. These inputs are then used to estimate impacts on the existing traffic volumes and operation of the roadway network, as described in Section 3.11. The City of Concord similarly used a CCTA model to evaluate the transportation impacts of the reuses at the former NWS Concord in the 2008 DEIR, 2010 FEIR, and the 2012 EIR Addendum. However, in the time period between the analyses for the EIR and the current analysis, the CCTA model was updated, and some of the model inputs relevant to the analysis changed. Changes in model inputs include:

Baseline Conditions. As discussed in Section 3.11, existing traffic conditions in the Reuse Plan EIR were primarily based on traffic counts in 2007; traffic counts were updated in June 2013 at the same intersections as in 2007 to support the analysis in this EIS. Between 2007 and 2013, economic conditions

changed in the study area, affecting the number of vehicles on the roadways. A discussion of the differences in the traffic counts between 2007 and 2013 is included in Section 3.11.3, Existing Traffic Volumes.

Forecast Conditions. The forecasts used for the build-out conditions in the updated model incorporate the latest land use projections developed by ABAG (ABAG n.d.) and other planned developments in the region.

Population Growth. In the current model, the horizon year for the forecasted growth projections is 2040, whereas in the previous model, the horizon year was 2030. Population and socioeconomic forecasts used in the current model are consistent with regional totals for growth projected in the Sustainable Communities Strategy Base Case "Modified Projections 2009" land use by ABAG (2008). Therefore, the traffic forecasts reflect traffic from growth in Concord, as well as traffic in the region that may use the local roadways. Because the future regional development included in the model also includes traffic impacts, the No Action Alternative is used as a means to identify traffic impacts related to the action alternatives only.

Roadway Improvements. The CCTA model also includes roadway improvements that have been planned or programmed for Concord and neighboring communities and those that are part of the Countywide Transportation Plan, Concord General Plan, and/or the city's Capital Improvement Program. At a some locations (6 intersections, 11 freeway mainline, and 4 ramps), the geometric assumptions differed between the EIR and EIS, which also contributed to the differences in the Level of Service (LOS) results. Table 4.11-1 describes the improvements that were included in the model in the vicinity of the former NWS Concord.

Table 4.11-1 CCTA Model Planned or Programmed Roadway Improvements

Location	Description
Freeway Improvements	
I-680	Add northbound high-occupancy vehicle (HOV) lane on I-680 from North Main Street to SR 242 and southbound HOV lane on I-680 from North Main Street to Livorna Road
I-680/Marina Vista	Interchange modifications
SR 242/Clayton Road Interchange	New northbound on-ramp and new southbound off-ramp
SR 4	Widening to provide an additional lane eastbound and westbound between SR 242 and I-680
SR 4 and I-680	Connector ramps between SR 4 and I-680 and HOV connection
Local Roadway Improvements	
Bates Avenue	Widen to four lanes from Industrial Way to Mason Circle
Buchanan Road Bypass	Connect James Donlon Boulevard to Kirker Pass Road
Commerce Avenue	Extend existing two-lane arterial
Concord Boulevard	Widen to four lanes from 6th Street to Farm Bureau Road
Cowell Road	Widen to four lanes between Monument Boulevard and Treat Boulevard
Denkinger Road	Widen to four lanes between Clayton Road and Concord Boulevard
Evora Road	Widen from Willow Pass to Pomo Street
Farm Bureau Road	Widen to four lanes between Willow Pass Road and Clayton Road
Kirker Pass Road	Add climbing lane from Clearbrook Drive to Pittsburg city limit
Marsh Drive	Widen to four lanes from Center Avenue to Concord city limit
Meadow Lane	Widen to four lanes between Monument Boulevard and Clayton Road

Table 4.11-1 CCTA Model Planned or Programmed Roadway Improvements

Location	Description
Monument Boulevard	Widen to six lanes from Systron Drive to Cowell Road
Pacheco Boulevard	Widen to four lanes north of SR 4
Port Chicago Highway	Widen to four lanes from Bates Avenue north to the Union Pacific Railroad crossing
Waterworld Parkway Bridge	Construct a two-lane bridge with bicycle lanes over Walnut Creek connecting Waterworld Parkway with Meridian Park Boulevard
West Leland Road/Avila Road	Extend West Leland Road and widen Avila Road
Willow Pass Road	Widen to four lanes between Landana Drive and SR 4
Ygnacio Valley Road	Widen to six lanes between Cowell Road and Michigan Boulevard

Source: Kittelson & Associates, Inc., 2016.

Travel Behavior. The updated CCTA model includes revisions to the model processes that attempt to better represent travel behavior, specifically making the model more sensitive to transit-oriented development and pedestrian-oriented streetscapes. These changes result in a different future baseline condition when compared to the previous analyses conducted for the 2012 Area Plan EIR Addendum using the older model.

The CCTA's Technical Procedures document provides a uniform set of policies, procedures, and tools to help guide the preparation of traffic studies. The Technical Procedures include:

1. A methodology for determining traffic LOS (i.e., performance) at signalized intersections;
2. Guidelines for applying the Authority's travel demand forecasting model; and
3. Procedures for preparing a traffic study.

In the updated Technical Procedures adopted by CCTA in early 2013, CCTA recommends use of the Highway Capacity Manual (HCM) methodology—specifically, the latest version of the HCM (2010)[4]—to determine level of service. The HCM (2010) methodology was used for the roadway segment, freeway segment, and freeway ramp analysis in the EIS transportation impact study. However, new policies and standards have not yet been developed to apply the latest (2010) HCM methodology to intersections at the time the analysis was conducted. Therefore, after consultation with CCTA staff, the use of the older CCTA LOS methodology for signalized intersections and the HCM (2000) methodology for unsignalized intersections was confirmed to be appropriate for the transportation impact study used to support this EIS (CCTA 2013d).

The CCTA model follows a four-step process to estimate travel behavior and travel demand for the proposed reuse of NWS Concord in the context of the surrounding land uses and transportation systems. These inputs are then used to estimate impacts on existing traffic volumes and operation of the roadway network. The process includes the following four steps:

1. Trip generation to estimate the number of trips that would be made;

[4] For the roadway segment, freeway segment, and freeway ramp analysis, the Reuse Plan EIR used the 2000 Highway Capacity Manual methodologies, while the EIS used the 2010 Highway Capacity Manual methodologies.

2. Trip distribution to estimate where those trips would go;
3. Mode choice to estimate how the trips would be divided among the modes of travel; and
4. Trip assignment to predict the routes those trips would take.

Trip Generation

The county is divided into traffic analysis zones (TAZs) for modeling trip generation. With this latest version of the CCTA model, almost 300 smaller TAZs were added in the vicinity of the TODs and Priority Development Areas throughout Contra Costa County to better reflect "trip-making" associated with smart growth. These smaller TAZs and more detailed roadway networks represent better access to transit and shorter trips associated with walking and/or bicycling. Characteristics of the built environment that tend to affect travel behavior include density, diversity, design, and destinations. The detailed geographic representations of TODs and Priority Development Areas enable the model to capture many effects associated with these characteristics. For example, the small TAZs represent shorter walk distances within zones and shorter distances between mixed uses within a zone, therefore, capturing the effects of density and diversity, respectively. The detailed network represents shorter distances between zones, therefore, capturing the effects of destinations within the built environment. The latest CCTA model also includes transit and auto accessibility factors as zonal inputs, which affect auto ownership and make the model more responsive to TOD characteristics. These accessibility factors affect project vehicle trip generation and vehicle miles travelled, when compared with the previous model. The TAZs in the vicinity of the former NWS Concord, including the smaller TAZs found around the North Concord/Martinez BART station, are shown on Figure 4.11-1.

Estimates of the trip generation are based on variables, such as population, households, employed residents, employment by category (service, retail, agricultural, industrial, and other), income classifications, school enrollment, and age categories, as well as other characteristics of the TAZ, such as parking costs and terminal times.[5] Estimates are also based on assumptions about mode split and include both automobiles and public transit as vehicle or motorized trips; it also includes non-motorized trips, such as bicycling or walking. The motorized trips are distributed between "productions" (trips made by households, workers, or students from the home end) and "attractions" (non-home end). These are then assigned to the roadway and transit networks (Kittelson & Associates, Inc., 2016).

While the latest CCTA model does incorporate some of the smart growth principles, including better access to transit, shorter trips associated with walking and/or bicycling, and shorter distances between mixed uses within a TAZ, the model cannot account for all of the TDM measures that the city proposes to implement to reduce VMT (travel demand management [TDM] strategies are defined in the Climate Action Plan, Book 3 of the Area Plan). For example, the model does not provide specific ridership estimates for public transit and bicycle usage. Alternatives 1 and 2 are planned as transit- and pedestrian-oriented development that would result in increased transit ridership, particularly at the North Concord/Martinez BART Station adjacent to the property.

[5] Terminal times are the travel time between one's origin and one's vehicle, and one's vehicle and one's final destination.

Table 4.11-2 provides a summary of daily vehicle trips, average vehicle trip lengths, and VMTs from the CCTA model associated with the reuse plan under Alternative 1, Alternative 2, and the No Action Alternative. The daily vehicle trips are trips that are generated on the site and include trips with one or both of the trip's ends on the site. VMT represents the total travel on the roadway network by all vehicle trips with one or both ends on the site, including the travel to and from the site that is generated by those trips. Regional trips that would pass through the site or the City of Concord but that do not have a trip end on the site are not included. As shown on Table 4.11-2, the household population is 23 percent greater under Alternative 2 than under Alternative 1. Consequently, Alternative 2 would generate 13 percent more daily vehicle trips and 17 percent more VMTs than Alternative 1. The average trip length under Alternative 2 is also slightly higher than that of Alternative 1. The average trip length is calculated by dividing VMT by the number of vehicle trips.

Details of daily vehicle trips by TAZ are provided in Table 4.11-3. The area close to the North Concord/Martinez BART station with highest employment (TAZ 20636) generates the most daily vehicle trips under Alternative 1 and Alternative 2.

Table 4.11-2 Daily Vehicle Trip Summaries

Scenario	Household Population[1]	Employment[1]	Students[1] (Full-Time College Students)	Daily Vehicle Trips	Average Trip Length (miles)	Daily Vehicle Miles Travelled (VMT)
2013 Baseline	122	561	0	2,046	9.3	19,096
2040 No Action Alternative	122	561	0	2,046	9.3	19,096
2040 Alternative 1	28,861	26,531	10,000	203,205	8.1	1,638,958
2040 Alternative 2	35,500	26,532	10,000	229,301	8.4	1,921,144

Source: Kittelson & Associates, Inc., 2016

[1] Population and employment estimates were developed independently of the analysis conducted in Section 4.3 of this EIS.

Table 4.11-3 Daily Vehicle Trip Summaries by TAZ

TAZ	Household Population	Employment	College Students	Daily Vehicle Trips
Alternative 1				
20333	5,257	1,094	0	21,663
20334	0	0	0	0
20618	0	116	0	331
20619	0	0	0	0
20634	0	4,321	5,000	24,017
20635	6,554	2,066	0	28,173
20636	1,190	11,910	0	35,101
20637	2,064	150	0	8,519
20638	1,469	1,850	0	14,349
20639	2,064	1,650	0	16,410
20640	0	2,544	5,000	19,538
20641	3,519	502	0	13,232
20642	0	0	0	0
20643	3,372	144	0	10,916
20644	0	0	0	0

Table 4.11-3 Daily Vehicle Trip Summaries by TAZ

TAZ	Household Population	Employment	College Students	Daily Vehicle Trips
Alternative 1				
20645	0	0	0	0
20646	3,372	144	0	10,839
30035	0	40	0	112
30705	0	0	0	0
Alternative 2				
20333	4,115	932	0	18,703
20334	0	0	0	0
20618	0	4,603	10,000	31,322
20619	0	0	0	0
20634	1,677	1,700	0	14,820
20635	8,303	288	0	29,131
20636	3,112	9,528	0	34,779
20637	2,544	2,457	0	16,216
20638	1,469	1,850	0	14,603
20639	3,948	1,650	0	21,894
20640	0	2,544	0	11,088
20641	3,444	552	0	13,691
20642	0	0	0	0
20643	3,444	194	0	11,503
20644	0	0	0	0
20645	0	0	0	0
20646	3,444	194	0	11,436
30035	0	40	0	109
30705	0	0	0	0

Source: Kittelson & Associate, 2016.

Trip Distribution

The second step in the model is the estimated trip distribution (the number of trips between each zone of origin and destination). The CCTA model accomplishes this through a gravity model that uses travel time between TAZs and trip purpose (e.g., work, shopping, school) to estimate where trips will go. Figure 4.11-2 and Table 4.11-4 show the geographic area where vehicle trips would go to and from during the AM and PM peak hours. As shown in Table 4.11-4, the travel patterns for both Alternative 1 and Alternative 2 are similar, with nearly 50 percent of the vehicle trips going to and coming from the east (East Contra Costa County). The vehicle trips that would stay internal to the reuse plan area represent 15 to 16 percent of all trips for Alternatives 1 and 2 during the AM peak hour and 19 percent of all trips for both alternatives during the PM peak hour.

Table 4.11-4 Trip Distribution

	Alternative 1				Alternative 2			
	AM		PM		AM		PM	
	Trips	%	Trips	%	Trips	%	Trips	%
Reuse Plan Area	2,702	16%	4,230	19%	3,019	15%	4,775	19%
City of Concord	2,366	14%	2,878	13%	2,951	15%	3,709	15%
Central Contra Costa	1,644	10%	1,800	8%	2,298	12%	2,540	10%
East Contra Costa	8,411	49%	10,764	50%	8,382	43%	10,792	44%
Tri-Valley	491	3%	467	2%	757	4%	724	3%
West Contra Costa	476	3%	437	2%	718	4%	669	3%
Alameda County	420	2%	446	2%	582	3%	625	3%
San Francisco County	139	1%	101	0%	182	1%	133	1%
San Mateo County	59	0%	49	0%	76	0%	62	0%
Santa Clara County	58	0%	89	0%	73	0%	112	0%
Solano County	336	2%	368	2%	440	2%	488	2%
Napa County	28	0%	27	0%	35	0%	34	0%
Sonoma County	27	0%	35	0%	35	0%	45	0%
Marin County	33	0%	39	0%	43	0%	51	0%

Source: Kittelson & Associates, Inc., 2016.

Travel Mode

The third step in the model is to determine what mode of travel is used, or the modal split. The CCTA model captures 1) whether travel is motorized (e.g., automobile or public transit) or non-motorized (walking or bicycling); 2) the more specific automobile travel decisions (e.g., drive alone or carpool); and, 3) where relevant, mode of travel to public transit (e.g., walking or driving to the station or bus stop).

As shown in Table 4.11-5, the CCTA model estimates that the primary mode of travel for the reuse plan area is by automobile. While the area near the North Concord/Martinez BART station is designed as a TOD, the CCTA model shows that the project would result in low transit use, which could be attributed in part to the fact that most of the development of the reuse plan area, including the campus, is located outside the TOD. However, it should be noted that this version of the CCTA model uses the default assumptions[6] regarding estimates of transit access trips from the regional (MTC) model, resulting in a more conservative estimate of traffic impacts (in other words, more vehicle trips rather than transit trips are assumed).

Table 4.11-5 includes an estimate of the mode of travel for trips that would be internal within the reuse plan area. While a smaller portion of overall trips for each alternative (about 3 percent), walk trips represent about 13 percent of the trips that would occur within the project site for both alternatives. Transit travel for trips that are coming from the reuse plan area and going to outside the reuse plan area would be higher than those trips coming from outside and going to the reuse plan area.

Trip Assignment

The last step of the model is trip assignment, where vehicle trips are allocated to specific routes on the roadway network within and outside of the reuse plan area.

[6] The previous version of the CCTA model, used to support the traffic analysis in the City of Concord 2010 FEIR and 2012 FEIR Addendum, allowed manual overrides to compensate for the prior limitations of the model.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Traffic Analysis Zones.mxd

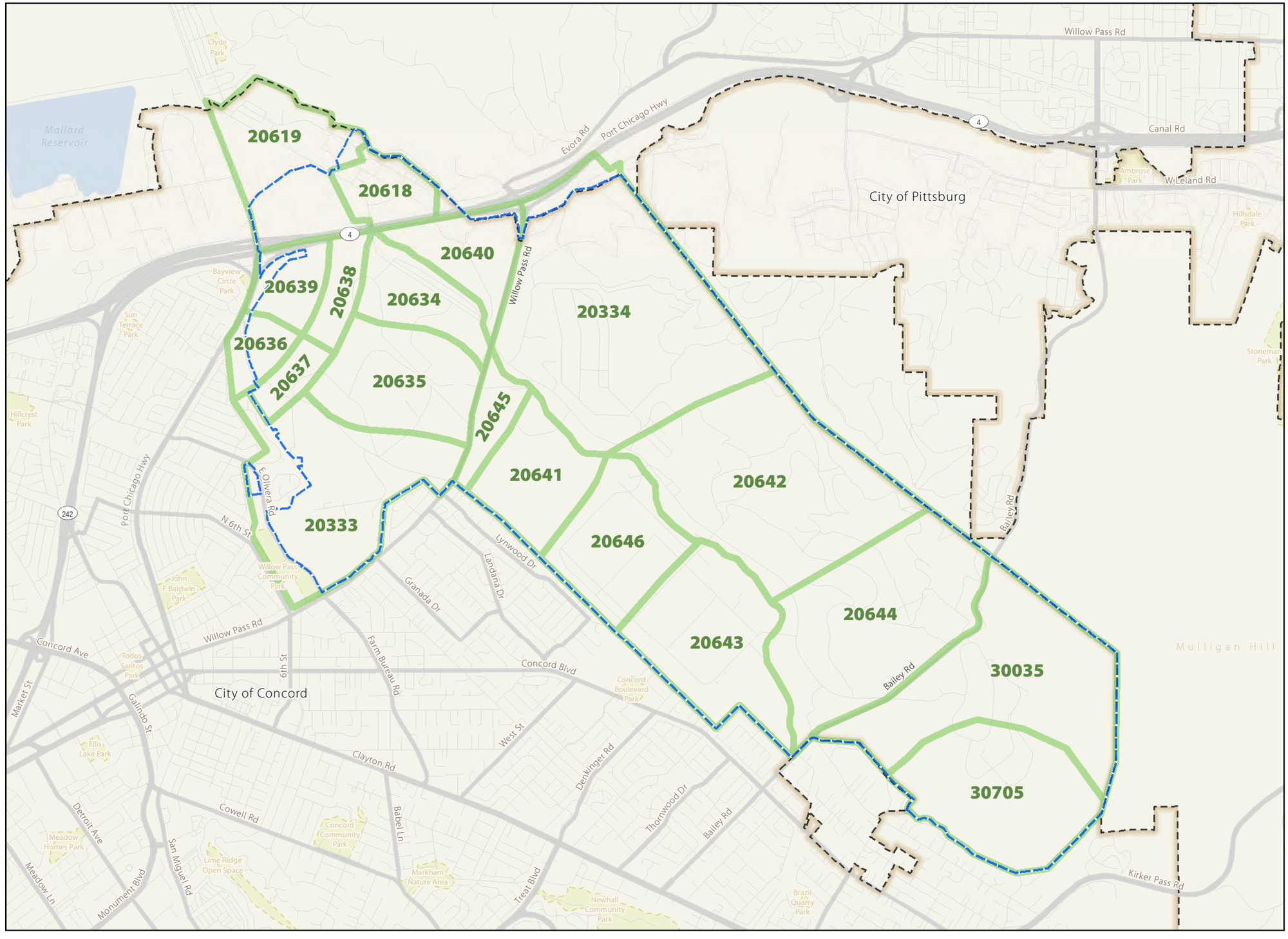


Figure 4.11-1
Traffic Analysis Zones
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Traffic Analysis Zones (TAZs)

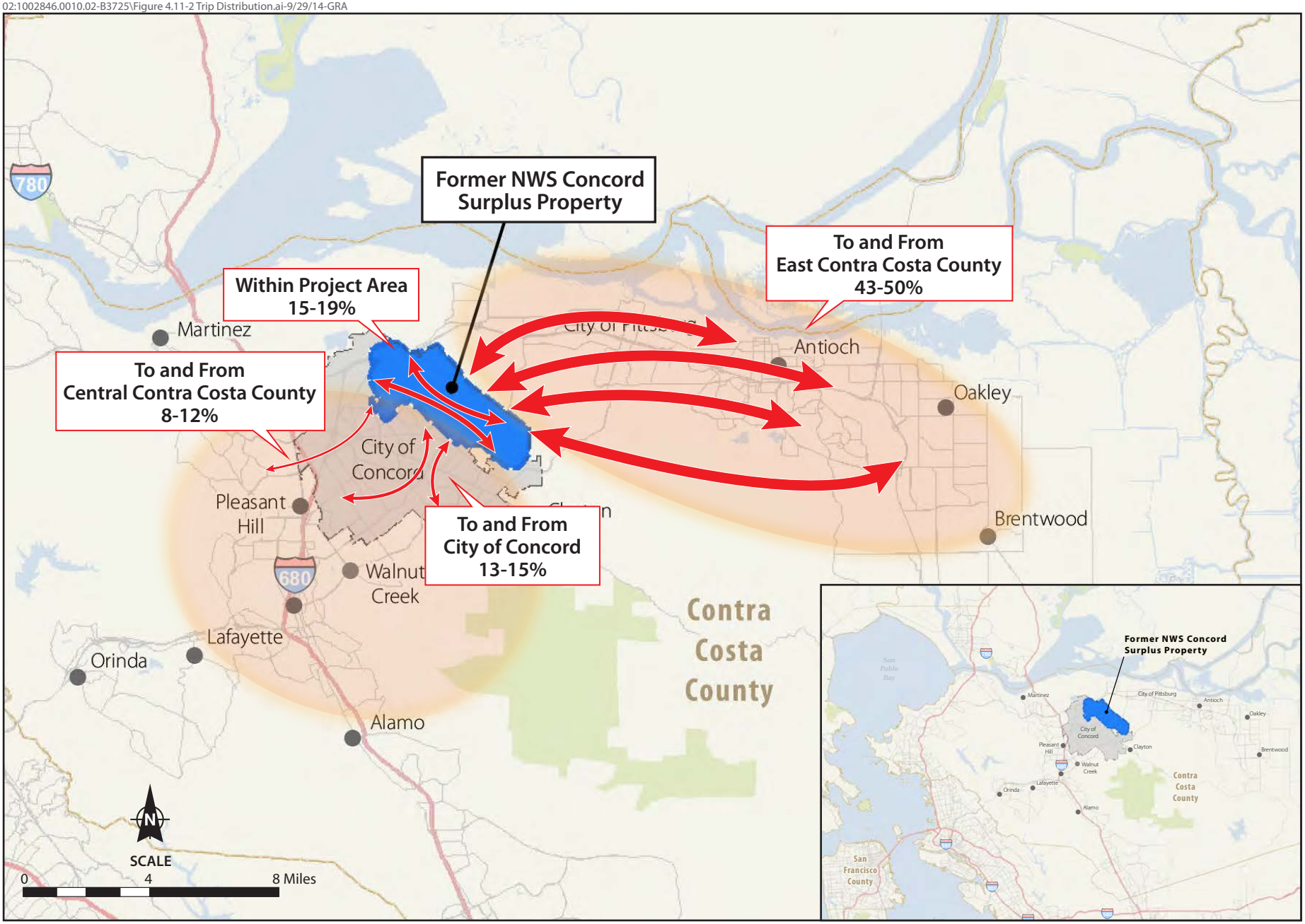
SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010

This page intentionally left blank.

02:1002846.0010.02-B3725\Figure 4.11-2 Trip Distribution.ai-9/29/14-GRA



Data Source: Kittelson & Associates, Inc., 2014.

Figure 4.11-2 Trip Distribution

This page intentionally left blank.

Table 4.11-5 Daily Person Trips by Mode

From	To	Total	Drive Alone		Shared Ride (2 persons)		Shared Ride (3+ persons)		Transit		Bicycle		Walk	
Alternative 1														
Reuse Plan Area	Reuse Plan Area	49,222	30,529	62%	8,852	18%	3,131	6%	17	0%	267	1%	6,426	13%
Reuse Plan Area	Outside	76,146	53,402	70%	13,819	18%	5,647	7%	2,120	3%	511	1%	647	1%
Outside	Reuse Plan Area	124,489	84,776	68%	25,325	20%	11,487	9%	763	1%	978	1%	1,160	1%
Alternative 2														
Reuse Plan Area	Reuse Plan Area	55,396	33,680	61%	10,274	19%	4,179	8%	23	0%	294	1%	6,946	13%
Reuse Plan Area	Outside	96,825	66,466	69%	18,003	19%	7,377	8%	3,204	3%	808	1%	967	1%
Outside	Reuse Plan Area	131,311	89,281	68%	27,107	21%	12,186	9%	614	0%	927	1%	1,196	1%

Source: Kittelson & Associates, Inc., 2016.

Note: "Transit" includes two categories, "transit-walk," which refers to trips for which the transit rider walks to the transit stop/station, and "transit-drive," which refers to trips for which the transit rider drives to the transit stop/station.

After the model has assigned the vehicle trips generated by the full build-out of the former NWS Concord, these trips are added to existing traffic volumes to determine the impact on operation of the roadway network. An analysis was conducted to evaluate the capacity of each roadway and freeway segment, freeway ramp, and intersection to accommodate the projected traffic volumes. The analysis characterized capacities based on the LOS and the performance standards identified for these analysis locations by CCTA and its regional planning committees, Caltrans, and the City of Concord. Potential impacts are identified if the performance threshold, e.g., LOS, is exceeded when compared to existing conditions, or the v/c ratio is higher than that of existing conditions if the performance threshold is already exceeded under existing conditions.

The CCTA and its regional planning committees, Caltrans, and the City of Concord have identified performance standards when evaluating changes to the roadway network. These standards are based on the programs and plans that are described in Section 3.11. Tables 4.11-6, 4.11-7, and 4.11-8 provide the specific performance standards for the Contra Costa Congestion Management Program, the Central County and East County Action Plans for Routes of Regional Significance, and the City of Concord 2030 General Plan, respectively. These performance standards are used to determine whether the transportation impacts associated with Alternative 1 or Alternative 2 are considered significant. When multiple standards are applicable, the most stringent standards are applied. As mentioned above, the current performance standards adopted by the City of Concord for signalized intersections are based on the old CCTA LOS methodology.

Table 4.11-6 2013 Contra Costa Congestion Management Program: Performance Standards

Freeway Segment	Performance Standard
SB I-680 from Benicia Bridge to El Cerro Boulevard	LOS F
NB I-680 north of SR 4	LOS F
NB I-680 between SR 242 and El Cerro Boulevard	LOS F
SB SR 242 between I-680 and SR 4	LOS F
SR 4 east of SR 242 to Bailey Road (both directions)	LOS F
NB I-680 between SR 4 and SR 242	LOS E
SR 4, between I-680 and SR 242 (both directions)	LOS E
NB SR 242 between I-680 and SR 4	LOS E
Intersection	
Int 8 North Main Street and Sunnyvale Avenue/I-680 ramps	LOS F
Int 9 North Main Street and Geary Road	LOS F
Int 12 Bancroft Road and Treat Boulevard	LOS F
Int 13 Oak Grove Road and Treat Boulevard	LOS F
Int 15 Walnut Avenue-Bancroft Road and Ygnacio Valley Road	LOS F
Int 16 Oak Grove Road and Ygnacio Valley Road	LOS F
Int 17 Ayers Road and Ygnacio Valley Road[1]	LOS F
Int 10 Buskirk Avenue-NB I-680 off-ramp and Treat Boulevard	LOS E
Int 11 Oak Road and Treat Boulevard	LOS E
Int 14 NB I-680 off-ramp and Ygnacio Valley Road	LOS E

[1] All LOS performance standards for freeway segments and intersections in Table 4.11-6 are the same in the 2013 and 2015 CMP except for Intersection17 - Ayers Road and Ygnacio Valley Road, which has a LOS E performance standard in the 2015 CMP.

Table 4.11-7 Central County and East County Action Plans for Routes of Regional Significance: Multi-modal Transportation Service Objectives (MTSO)

Routes of Regional Significance	Performance Standard
Freeway	**MTSO**
I- 680	4.0 delay index
SR 242	3.0 delay index
SR 4	5.0 delay index from Cummings Skyway to Willow Pass Road
SR 4	2.5 delay index in East County
SR 4	600 vehicle per HOV lane utilization in the peak direction at peak hour in East County
Intersection	**Level of Service/Delay**
Int 9 North Main Street and Geary Road	LOS F
Int 12 Bancroft Road and Treat Boulevard	LOS F
Int 15 Walnut Avenue-Bancroft Road and Ygnacio Valley Road	LOS F
Int 18 Willow Pass Road and Evora Road (West)	LOS mid-D (v/c 0.85)
Int 19 Willow Pass Road and SR 4 WB ramps	LOS mid-D (v/c 0.85)
Int 20 Willow Pass Road and SR 4 EB ramps	LOS mid-D (v/c 0.85)
Int 21 Willow Pass Road and Avila Road	LOS mid-D (v/c 0.85)
Int 22 Willow Pass Road and Evora Road (East)-SR 4 WB off-ramp	LOS mid-D (v/c 0.85)
Int 23 San Marco Boulevard-Willow Pass Road /SR 4 EB ramps	LOS mid-D (v/c 0.85)
Int 24 San Marco Boulevard and W. Leland Road	LOS mid-D (v/c 0.85)
Int 25 Bailey Road and Willow Pass Road	LOS E
Int 26 Bailey Road and SR 4 EB ramps-BART access	LOS E
Int 27 Railroad Avenue and W. Leland Road	LOS mid-D (v/c 0.85)
Int 28 Kirker Pass Road and James Donlon Boulevard	LOS mid-D (v/c 0.85)

Key:
v/c = volume-to-capacity ratio

Table 4.11-8 City of Concord General Plan: Performance Standards

Location/Type	Performance Standard
Outside the Central Business District[1], outside 0.5 mile of BART, and not on transit routes[2]	LOS D (0.90 v/c)
Central Business District, within 0.5 mile of a BART station, or on transit routes	LOS E (up to 1.0 v/c)
Congestion Management Plan (CMP) Monitoring Intersections operating at LOS F in 1991 and roadway segments connecting to one or more such intersections	LOS F (over 1.0 v/c)
All remaining CMP Monitoring Intersections and roadway segments[3] connecting to one or more of such intersections	LOS E (up to 1.0 v/c)
For transportation facilities that fail to meet LOS standards (as defined above) under no project conditions	An increase in the v/c ratio of 0.03 or greater under no project conditions is considered to be significant.

[1] The Central Business District is generally defined as the area bound by Concord Avenue and Salvio Street to the north; Willow Pass Road, Clayton Road, and Galindo Street to the south; Port Chicago Highway, Oakland Avenue, and Mesa Street to the east; and I-680 to the west.

[2] Transit routes are generally defined as serving two or more transit lines.

[3] LOS F if roadway segment is located between LOS E and LOS F Monitoring Intersections.

4.11.2 Alternative 1

Full build-out of the former NWS Concord property under Alternative 1 is projected to add 203,205 daily trips to the new and surrounding road network (see Table 4.11-2). New roadways would be developed on the former NWS Concord as described in Chapter 2 and would connect with the existing roadway network.

Redevelopment of the former NWS Concord under Alternative 1 has the potential to exceed performance standards and have an impact on 12 intersections, two roadway segment, four freeway segments, and 16 freeway ramps. An impacted location is one in which 1) the condition would fall below the performance thresholds if the location is within standard under existing conditions; or 2) the v/c ratio is higher than that of existing conditions if the performance threshold is already exceeded under existing conditions (Kittelson & Associates, Inc., 2016). The potentially impacted locations are shown in Figure 4.11-3. Since the model assumed transit- and pedestrian-oriented development would reduce the percentage of automobile trips taken, transportation conditions at several locations are slightly better than the No Action Alternative despite the number of daily trips generated. Appendix H-2 provides a detailed comparison of intersections, roadway segments, freeway segments, and roadway ramps that exceed performance thresholds under Alternative 1 to those that exceed performance thresholds under the Preferred Alternative in the City of Concord's 2010 FEIR and 2012 Area Plan EIR Addendum.

The projected LOS for analyzed intersections for Alternative 1 is presented in Table 4.11-9 (Operational Impacts, Intersections). Twelve intersections would exceed the LOS performance standards during AM and/or PM peak hours under Alternative 1, and all exceedances would result in adverse impacts. Two impacted intersections under Alternative 1, Willow Pass Road/SR 4 WB ramps (Int 19) and Bailey Road/SR 4 EB ramps-BART access (Int 26), also exceed the performance standards under existing conditions.

The projected LOS for roadway segments analyzed is presented in Table 4.11-10 (Operational Impacts, Roadway Segments). Two roadway segments would exceed the LOS performance standards during AM and/or PM peak hours under Alternative 1 and are considered impacted locations. The Bailey Road segment (RS 2) would operate at LOS E during the AM peak hour, which would exceed the performance standard of LOS D for this intersection. However, the v/c ratio under Alternative 1 is lower than that of the No Action alternative; therefore, it is not considered an adverse impact requiring mitigation. Port Chicago Highway (RS 4) north of Olivera Road would operate at LOS F during both the AM and PM peak hours and is considered an adverse impact.

The projected LOS for freeway segments under Alternative 1 is presented in Table 4.11-11 (Operational Impacts, Freeway Segments). Four freeway segments would exceed performance standards during AM and/or PM peak hours under Alternative 1 and are considered impacted locations. Four of the five segments of SR 4 (FS 8, 9, 10, and 11) are projected to operate at LOS F and exceed performance standards during the AM and/or PM peak hour under Alternative 1. Two of the impacted freeway segments, SR 4 e/o SR 242 (FS 8) and SR 4 e/o Port Chicago Hwy (FS 9), have a v/c ratio under Alternative 1 that is lower than under the No Action alternative; therefore, they are not considered adverse impacts requiring mitigation. SR 4 e/o Willow Pass Rd (FS 10) and SR 4 e/o San Marco Blvd (FS 11) would operate at LOS F during the AM (westbound) and PM (eastbound) peak hours and are considered adverse impacts.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Traffic_Impacts_Alt1_2016_01_28.mxd

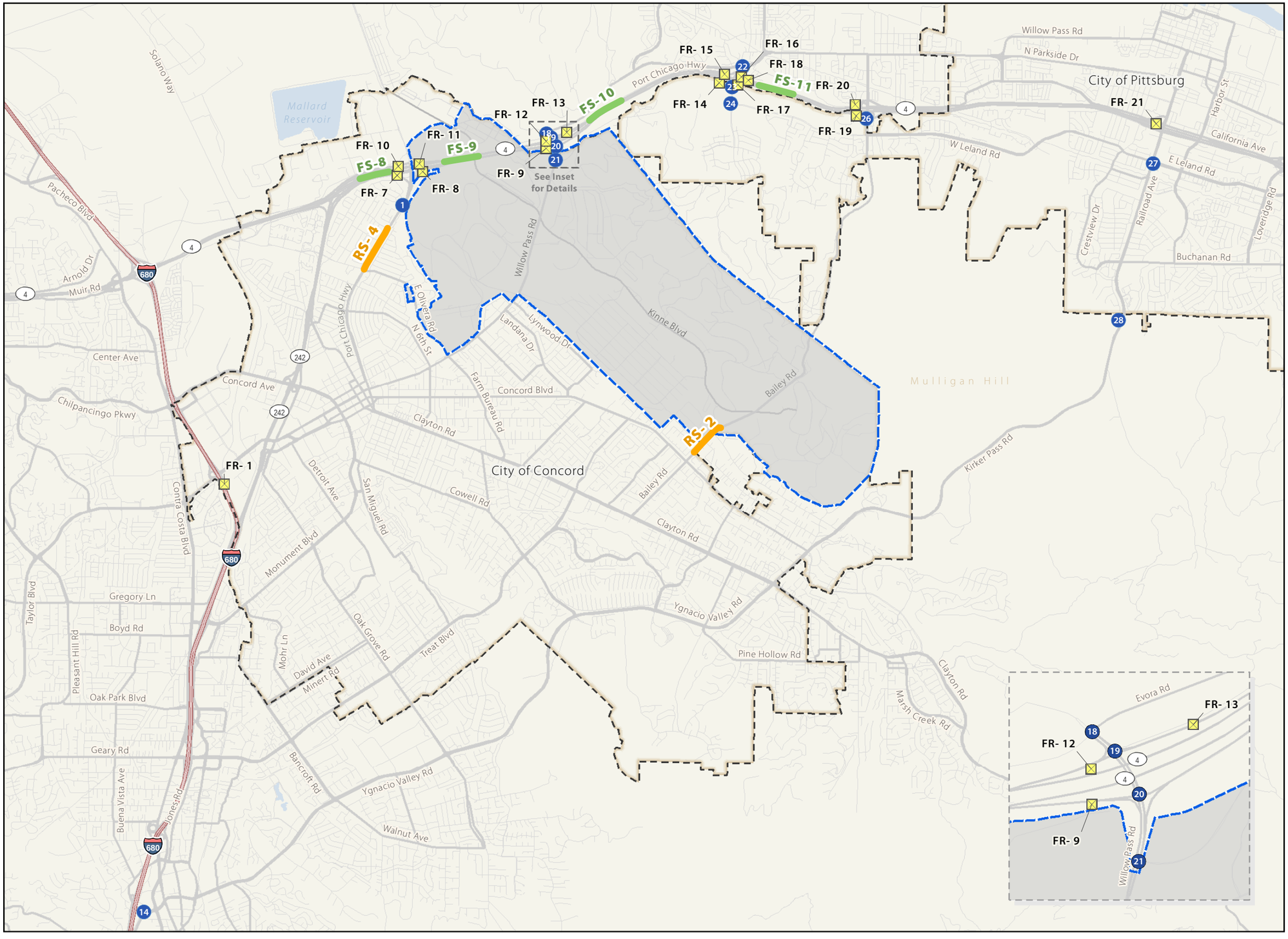


Figure 4.11-3
Impacted Traffic Locations Under Alternative 1 and Alternative 2
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- County Boundary

Impacted Traffic Locations

- Freeway Ramp
- Intersection
- Study Roadways
- Freeway Segments

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2004, 2011; Kittelson 2014.

This page intentionally left blank.

The projected LOS for freeway ramps is presented in Table 4.11-12 (Operational Impacts, Freeway Ramps). Sixteen freeway ramps would exceed the LOS performance standards during AM and/or PM peak hours under Alternative 1 and are considered impacted locations. At six of the impacted ramp locations (FR 1, 7, 8, 9, 11, and 12), the v/c ratios under Alternative 1 are the same as or lower than under the No Action alternative; therefore, they are not considered adverse impacts requiring mitigation. Ten freeway ramps would operate at LOS E or F during the AM or PM peak hours and are considered adverse impacts. All 10 adverse impacted locations provide access to and from SR 4.

Under Alternative 1, the delay indexes along the Central and East County freeway corridors of I-680, SR 4, and SR 242 and the HOV utilization on SR 4 in East County are projected to be within MTSO standards.

As shown on Tables 4.11-9, 4.11-10, 4.11-11, and 4.11-12, Kittelson & Associates, Inc., identified roadway or traffic-flow improvements that may be considered in accordance with the adopted MMRP to mitigate the adverse impacts under Alternative 1. Many physical improvement measures, including but not limited to the ones listed, would be considered consistent with the MMRP. These measures primarily entail capacity increase, and under the city's Climate Action Plan (Book 3 of the Area Plan), the city plans to mitigate transportation impacts through implementation of the design standards in its Action Plan and other TDM strategies to reduce VMT in support of state and local policies to reduce GHGs.

Impacts on the transportation network surrounding the property are also expected as a result of construction during the redevelopment of the property. Impacts may include an increase in traffic on roadways immediately adjacent to the property, traffic delays due to slow-moving construction vehicles, and temporary road closures. However, these construction-related impacts would be temporary and minor because the construction would be phased over the build-out period.

In its Climate Action Plan, the city estimates that VMT can be reduced between 20 percent and 44 percent. The land use strategies in the Area Plan are expected to reduce VMT by 3 percent to 5 percent because residences are located near job centers, retail, and community services in these compact, mixed-use developments. The multi-modal transportation network is expected to reduce VMTs by 2 percent to 4 percent because the pedestrian, bicycle, and transit network will be well connected. The city also proposes to manage parking, which would reduce VMT by an estimated 10 percent to 20 percent, and other TDM strategies, which will include a 5 percent to 15 percent reduction in VMTs (City of Concord 2010).

TDM programs have been adopted through an amendment to the Concord General Plan that will reduce the use of automobiles and lessen traffic impacts. TDM strategies may include financial, system, and demand incentives that provide reasons for motorists to switch transportation modes, carpool, or eliminate or reduce the number of vehicle trips, and may include:

- Financial Incentives: employee travel allowance, parking cash out, and transit pass
- System Incentives: park and ride lots, shuttle service to BART, and bicyclist facilities such as secure bicycle parking and changing areas, lockers, and showers
- Demand Incentives: rideshare and vanpool programs, car- or bike-sharing programs, preferred parking for carpools, and guaranteed ride home (Kittelson & Associates, Inc., 2016).

In its MMRP, the city has stated the performance of TDM programs on site will be evaluated as development occurs in the future. The city will monitor intersections impacted and develop updated traffic volume forecasts based on the performance of its VMT reduction program. Based on future conditions, roadway and traffic-flow improvements may be considered by the City of Concord and

incorporated as needed into development proposals to mitigate impacts of the increase in traffic volume on LOS. As stated in the MMRP Transportation Section and Area Plan Book 2 Interagency Coordination Policy T-5.2, the City of Concord will coordinate with affected jurisdictions on specific mitigation measures prior to the approval of a development plan or discretionary entitlement. The goal of coordination is to address the traffic impacts in the respective agencies' jurisdiction through appropriate mitigation measures, which may include TDM measures, arterial traffic management tools, adaptive timing technology upgrades, and physical roadway improvements that increase capacity. Physical roadway improvements may include widening roadways to provide dedicated turning lanes, widening roadways to provide dedicated receiving lanes for through traffic, and other similar projects such as those identified in Tables 4-11.9 through 4-11.12 (City of Concord 2010).

To address the costs of transportation mitigation, the city proposes in its MMRP to conduct a Nexus Study, required pursuant to the Mitigation Fee Act, for the entire site to establish an equitable traffic impact-fee rate for each land use category to ensure that future development projects will contribute a fair share of the unfunded costs of planned improvements and mitigation measures determined by the City of Concord in consultation with the affected jurisdictions (City of Concord 2010). In addition, the city will require future developers to contribute a traffic impact fee in accordance with the TRANSPAC Subregional Mitigation Fee Program requirements of the Central County Action Plan for Routes of Regional Significance (City of Concord 2010).

Although implementation of measures identified in the Climate Action Plan and the MMRP would mitigate impacts, the extent of the reduction in impacts is not known at the date of this analysis, prior to the establishment of specific development proposals; therefore, these impacts as they are currently defined would be significant and adverse.

4.11.3 Alternative 2

Full build-out of the former NWS Concord under Alternative 2 is projected to add 229,301 daily trips to the new and surrounding road network. New roadways would be developed on the former NWS Concord as described in Chapter 2 and would connect with the existing roadway network.

Redevelopment of the former NWS Concord under Alternative 2 has the potential to exceed performance standards and have an impact on 13 intersections, two roadway segments, four freeway segments, and 16 freeway ramps. All of the impacted locations are the same as those identified in Alternative 1 with the exception of an additional intersection, Farm Bureau Road and Willow Pass Road (Int 3), that is impacted under Alternative 2. Transportation impacts for these locations under Alternative 2 would be similar to impacts described under Alternative 1; impacts under Alternative 2 that would be different than those under Alternative 1 are described below.

The projected LOS for analyzed intersections for Alternative 2 is presented in Table 4.11-9 (Operational Impacts, Intersections). Thirteen intersections would exceed the LOS performance standards during AM and/or PM peak hours under Alternative 2, and all exceedances result in adverse impacts. Some of these intersections would see a further degradation of v/c ratio under Alternative 2, while other intersections would see an improvement in the v/c ratio compared to Alternative 1. The Farm Bureau Road and Willow Pass Road intersection (Int 3) is not impacted under Alternative 1 but is impacted under Alternative 2 with a LOS E, which would exceed the LOS D performance standard for this intersection.

Table 4.11-9 Operational Impacts, Intersections

Intersection	Performance Standards	No Action AM LOS (v/c)	No Action PM LOS (v/c)	Alternative 1 AM LOS (v/c)	Alternative 1 PM LOS (v/c)	Alternative 1 w/ Mitigation AM LOS (v/c)	Alternative 1 w/ Mitigation PM LOS (v/c)	Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2 AM LOS (v/c)	Alternative 2 PM LOS (v/c)	Alternative 2 w/ Mitigation AM LOS (v/c)	Alternative 2 w/ Mitigation PM LOS (v/c)	Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
Int 1 Port Chicago Highway / Panoramic Drive	E	B	C	**F**	**F**	E	E	• Widen the east leg on Panoramic Drive to add one WB right turn lane to provide two left-turn lanes, one shared through-right turn lane, and two right-turn lanes; • Convert the NB exclusive right-turn lane to a shared through-right turn lane; and • Widen the north leg on Point Chicago Highway to accommodate three NB receiving lanes.	**F**	**F**	E	E	Same as Alternative 1
Int 2 Port Chicago Highway / Olivera Road	E	A	C	E	D	n/a	n/a	n/a	D	E	n/a	n/a	n/a
Int 3 Farm Bureau Road / Willow Pass Road	D	C	**F**	B	D	n/a	n/a	n/a	B	**E**	n/a	D	Restripe the SB approach of E. Olivera Road to add a second turn lane to provide two left-turn lanes, one through lane, and one right-turn lane.
Int 4 Commerce Avenue - SR242 SB/ Concord Avenue	E	B	D	B	D	n/a	n/a	n/a	C	D	n/a	n/a	n/a
Int 5 West Street / Concord Boulevard	D	B	A	C	B	n/a	n/a	n/a	C	B	n/a	n/a	n/a
Int 6 Denkinger Road / Concord Boulevard	D	A	B	A	B	n/a	n/a	n/a	A	B	n/a	n/a	n/a
Int 7 Bailey Road / Concord Boulevard	D	C	A	C	A	n/a	n/a	n/a	C	A	n/a	n/a	n/a
Int 8 North Main Street / Sunnyvale Avenue-SB I-680 Ramps	F	F	D	E	D	n/a	n/a	n/a	E	D	n/a	n/a	n/a
Int 9 North Main Street / Geary Road	F	D	E	D	F	n/a	n/a	n/a	D	F	n/a	n/a	n/a
Int 10 Buskirk Avenue-NB I-680 Off Ramp / Treat Boulevard	E	A	B	B	B	n/a	n/a	n/a	A	B	n/a	n/a	n/a
Int 11 Oak Road / Treat Boulevard	E	B	C	A	D	n/a	n/a	n/a	B	D	n/a	n/a	n/a
Int 12 Bancroft Road / Treat Boulevard	F	D	E	D	E	n/a	n/a	n/a	D	E	n/a	n/a	n/a
Int 13 Oak Grove Road / Treat Boulevard	F	E	D	E	D	n/a	n/a	n/a	E	D	n/a	n/a	n/a
Int 14 NB I-680 Off Ramp / Ygnacio Valley Road	E	**F**	**F**	**F**	**F**	E	E	• Account for the right-turn on red movements after stop for the northbound approach from the off-ramp to Ygnacio Valley Road.	**F**	**F**	E	E	Same as Alternative 1
Int 15Walnut Avenue-Bancroft Road / Ygnacio Valley Road	F	D	D	D	D	n/a	n/a	n/a	D	D	n/a	n/a	n/a
Int 16 Oak Grove Road / Ygnacio Valley Road	F	E	E	E	E	n/a	n/a	n/a	E	E	n/a	n/a	n/a

Table 4.11-9 Operational Impacts, Intersections

Intersection	Performance Standards	No Action AM LOS (v/c)	No Action PM LOS (v/c)	Alternative 1 AM LOS (v/c)	Alternative 1 PM LOS (v/c)	Alternative 1 w/ Mitigation AM LOS (v/c)	Alternative 1 w/ Mitigation PM LOS (v/c)	Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2 AM LOS (v/c)	Alternative 2 PM LOS (v/c)	Alternative 2 w/ Mitigation AM LOS (v/c)	Alternative 2 w/ Mitigation PM LOS (v/c)	Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
Int 17 Ayers Road / Ygnacio Valley Road	F[7]	C	B	C	A	n/a	n/a	n/a	C	B	n/a	n/a	n/a
Int 18 Willow Pass Road / Evora Road (West)	mid-D (v/c 0.85)	**F (1.55)**	**E (0.92)**	**F (1.91)**	**F (1.56)**	**F (1.19)**	D (0.84)	• Widen the west leg on Evora Road to add a shared through-right lane on the EB approach to provide one shared left-through lane and one shared through-right lane; • Widen the east leg on Evora Road to add one exclusive left-turn lane on the WB approach to provide two left-turn lanes and one shared through-right lane; • Widen the south leg on Willow Pass Road to add an exclusive left-turn lane on the NB approach to provide one left-turn lane, one shared left-through lane, and one free right-turn lane; and • Widen the east leg to provide a dedicated receiving lane for the free NB right-turn traffic and a receiving lane for the EB through traffic.	**F (2.58)**	**F (2.45)**	**F (1.39)**	D (0.82)	• Widen the west leg on Evora Road to add two exclusive right-turn lanes on the EB approach to provide one shared left-through lane and two right-turn lanes; • Widen the east leg on Evora Road to add one exclusive left-turn lane on the WB approach to provide two left-turn lanes and one shared through-right lane • Widen the south leg on Willow Pass Road to add an exclusive left-turn lane on the NB approach to provide one left-turn lane, one shared left-through lane, and one free right-turn lane; and • Widen the east leg to provide a dedicated lane to receive free NB right-turn traffic.
Int 19 Willow Pass Road / SR 4 WB ramps	mid-D (v/c 0.85)[8]	C (0.71)	A (0.49)	**F (1.19)**	C (0.73)	D (0.83)	n/a	• Widen the north leg on Willow Pass Road to add one SB through lane to provide three through lanes and one right-turn lane; • Widen the east leg of the SR 4 off-ramp to add one WB left-turn lane and to convert the shared left-through lane to a shared left-through-right turn lane to provide two left-turn lanes, one shared left-through-right turn lane, and one right-turn lane; and • Widen the south left on Willow Pass Road to accommodate three SB receiving lanes.	**F (1)**	B (0.68)	D (0.84)	n/a	Same as Alternative 1

[7] The 2013 CMP defined a LOS F performance standard for Intersection 17 - Ayers Road and Ygnacio Valley Road while the 2015 CMP defined a LOS E performance standard. There is no exceedance in the performance threshold and, therefore, no operational impact on Intersection 17. The findings remain the same.

[8] Performance standard is exceeded under existing conditions AM peak hour.

Table 4.11-9 Operational Impacts, Intersections

Intersection	Performance Standards	No Action AM LOS (v/c)	No Action PM LOS (v/c)	Alternative 1 AM LOS (v/c)	Alternative 1 PM LOS (v/c)	Alternative 1 w/ Mitigation AM LOS (v/c)	Alternative 1 w/ Mitigation PM LOS (v/c)	Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2 AM LOS (v/c)	Alternative 2 PM LOS (v/c)	Alternative 2 w/ Mitigation AM LOS (v/c)	Alternative 2 w/ Mitigation PM LOS (v/c)	Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
In 20 Willow Pass Road / SR 4 EB ramps	mid-D (v/c 0.85)[9]	A (0.48)	C (0.79)	D (0.85)	**E (0.96)**	n/a	C (0.79)	• Add one additional SB left-turn lane to provide two left-turn lanes and two through lanes; and • Modify the east leg to accommodate two EB receiving lanes.	**F (1.27)**	**E (0.91)**	C	C	• Add one EB left-turn lane on the SR 4 off-ramp to provide one left-turn lane, one shared left-through lane, and one right-turn lane; and • Convert one SB left-turn lane to a through lane on Willow Pass Road to provide one left-turn lane and three through lanes; • Widen the south leg to accommodate two SB receiving lanes.
Int 21 Willow Pass Road / Avila Road	mid-D (v/c 0.85)	**F (1.09)**	**F (1.07)**	**F (1.35)**	**F (1.26)**	**F (1.03)**	**F (1.02)**	• Convert the WB right-turn lane on Avila Road to a shared through-right turn lane to provide one left turn lane, one through lane, and one shared through-right turn lane; • Convert the EB right-turn lane on Avila Road to a shared through-right turn lane to provide one left turn lane, one through lane, and one shared through-right turn lane; and • Widen the east leg and the west leg on Avila Road to accommodate two receiving lanes in either direction.	**F (1.5)**	**F (1.27)**	**F (1.01)**	**D (0.89)**	• Convert the WB right-turn lane to a shared through-right turn lane on Avila Road to provide one left turn lane, one through lane, and one shared through-right turn lane; • Add an EB left-turn lane on Avila Road to provide two left turn lanes, one through lane, and one shared through-right turn lane; and • Widen the east leg and the west leg on Avila Road to accommodate two receiving lanes.
Int 22 Willow Pass Road / Evora Road (East)-SR 4 WB Off Ramp	mid-D (v/c 0.85)	**F (1.2)**	A (0.51)	**F (1.25)**	B (0.67)	**E**	n/a	• Convert one NB through lane on Willow Pass Road to a left-turn lane to provide two left-turn lanes and two through lanes; and • Convert the SB shared through-right lane on Willow Pass Road to an exclusive right-turn lane to provide three through lanes and one right-turn lane.	**F (1.26)**	B (0.66)	**F (1)**	n/a	Same as Alternative 1
Int 23 San Marco Boulevard-Willow Pass Road / SR 4 EB ramps	mid-D (v/c 0.85)	D (0.81)	**F (1.01)**	**F (1.13)**	**F (1.61)**	D (0.85)	D (0.81)	• Add one EB right-turn lane and convert one of the left-turn lanes to a shared left-right turn lane at the SR 4 off-ramp to provide one left-turn lane, one shared left-right turn lane and two right-turn lanes; and • Widen the south leg on Willow Pass Road to accommodate three receiving lanes.	**F (1.03)**	**F (1.59)**	D (0.85)	C	Same as Alternative 1

[9] Performance standard is exceeded under existing conditions AM peak hour.

Table 4.11-9 Operational Impacts, Intersections

Intersection	Performance Standards	No Action AM LOS (v/c)	No Action PM LOS (v/c)	Alternative 1 AM LOS (v/c)	Alternative 1 PM LOS (v/c)	Alternative 1 w/ Mitigation AM LOS (v/c)	Alternative 1 w/ Mitigation PM LOS (v/c)	Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2 AM LOS (v/c)	Alternative 2 PM LOS (v/c)	Alternative 2 w/ Mitigation AM LOS (v/c)	Alternative 2 w/ Mitigation PM LOS (v/c)	Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
Int 24 San Marco Boulevard / W Leland Road	mid-D (v/c 0.85)	D (0.84)	C (0.72)	**D (0.89)**	D (0.85)	D (0.85)	n/a	• Modify signal timing to allow for only permitted left-turns for eastbound approach.	**D (0.87)**	**D (0.89)**	C (0.79)	D (0.82)	Same as Alternative 1
Int 25 Bailey Road / Willow Pass Road	E	C	D	C	E	n/a	n/a	n/a	C	E	n/a	n/a	n/a
Int 26 Bailey Road / SR 4 EB ramps-BART access	E[10]	B	**F (1.36)**	D	**F (1.86)**	n/a	**F (1.11)**	• Convert the EB through lane to an exclusive left-turn lane from the BART access road and widen the SR-4 EB off-ramp to add a right-turn lane to provide one left-turn lane, one shared left-through lane, and two right-turn lanes on the WB approach; • Remove one of the SB left-turn lanes to provide one left turn lane, two through lanes and one right-turn lane on the SB approach; and • Modify the traffic signal to provide protected left-turn phasing.	E	**F (1.84)**	n/a	**F (1.10)**	Same as Alternative 1
Int 27 Railroad Avenue / W Leland Road	mid-D (v/c 0.85)	**D (0.88)**	**E (0.98)**	**D (0.86)**	**E (1)**	C	D (0.81)	• Widen the north leg on Railroad Avenue to add a SB left-turn lane to provide two left-turn lanes, two through lanes and one right-turn lane; and • Widen the west leg on W. Leland Road to add an EB right-turn lane to provide one left-turn lane, two through lanes and one right-turn lane.	**D (0.87)**	**E (0.99)**	D (0.80)	D (0.83)	Same as Alternative 1
Int 28 Kirker Pass Road / James Donlon Boulevard	mid-D (v/c 0.85)	**F (1.14)**	**D (0.95)**	**F (1.16)**	**F (1)**	**D (0.86)**	**D (0.87)**	• Convert the WB right-turn lane to a shared left-right turn lane to provide one shared left turn lane and one shared left-right turn lane on the WB approach on James Donlon Boulevard.	**F (1.16)**	**F (1)**	**D (0.87)**	**D (0.87)**	Same as Alternative 1

Note:
Bold values represent LOS that exceeds performance standards.
Green highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards but the v/c or delay is lower than or the same as under the No Action Alternative.
Yellow highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards and the v/c or delay is higher than under the No Action Alternative.
Many physical improvement measures, including but not limited to the ones listed, would be considered consistent with the MMRP.
Some of the physical improvement measures listed may be infeasible due to physical constraints of the location. See Appendix H for further detail.

[10] Performance standard is exceeded under existing conditions PM peak hour.

Table 4.11-10 Operational Impacts, Roadway Segments

ID	Street Name	Performance Standards	No Action AM LOS	No Action PM LOS	Alternative 1 AM LOS	Alternative 1 PM LOS	Alternative 1 w/ Mitigation AM LOS	Alternative 1 w/ Mitigation PM LOS	Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2 AM LOS	Alternative 2 PM LOS	Alternative 2 w/ Mitigation AM LOS	Alternative 2 w/ Mitigation PM LOS	Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
RS 1	Ygnacio Valley Road	E	C	C	C	C	n/a	n/a	n/a	C	C	n/a	n/a	n/a
RS 2	Bailey Road	D	**F**	D	**E**	D	n/a	n/a	None Required[11]	**E**	D	n/a	n/a	None Required[12]
RS 3	Concord Boulevard	E	D	D	D	D	n/a	n/a	n/a	D	D	n/a	n/a	n/a
RS 4	Port Chicago Highway	E	C	C	**F**	**F**	**C**	**C**	Widen Port Chicago Highway to provide two travel lanes in each direction.	**F**	**F**	**C**	**C**	Same as Alternative 1
RS 5	Kirker Pass Road	D	D	D	D	D	n/a	n/a	n/a	D	D	n/a	n/a	n/a

Note:
Bold values represent LOS that exceed performance standards.
Green highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards but the v/c is lower than under the No Action Alternative.
Yellow highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards and the v/c is higher than under the No Action Alternative.
Many physical improvement measures, including but not limited to the ones listed, would be considered consistent with the MMRP.
Some of the physical improvement measures listed may be infeasible due to physical constraints of the location. See Appendix H for further detail.

[11] The v/c ratio under Alternative 1 is lower than under the No Action Alternative; therefore, it is not considered an adverse impact requiring mitigation.
[12] The v/c ratio under Alternative 2 is lower than under the No Action Alternative; therefore, it is not considered an adverse impact requiring mitigation.

Table 4.11-11 Operational Impacts, Freeway Segments

ID	Mainline Segment	Direction	Performance Standards	No Action AM LOS (v/c)	No Action PM LOS (v/c)	Alternative 1 AM LOS	Alternative 1 PM LOS	Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2 AM LOS	Alternative 2 PM LOS	Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
FS 1	I-680 s/o Monument Blvd	NB	F	C	D	C	D	n/a	C	D	n/a
		SB	F	C	C	C	C	n/a	C	C	n/a
FS 2	I-680 n/o Monument Blvd.	NB	F	C	C	C	C	n/a	C	C	n/a
		SB	F	D	C	D	D	n/a	D	D	n/a
FS 3	I-680 n/o SR 242	NB	F	B	D	B	D	n/a	B	D	n/a
		SB	F	C	C	C	C	n/a	C	C	n/a
FS 4	I-680 n/o Willow Pass Rd	NB	F	B	C	B	C	n/a	B	C	n/a
		SB	F	C	C	C	C	n/a	C	C	n/a
FS 5	I-680 n/o Concord Ave	NB	F	B	D	B	D	n/a	B	D	n/a
		SB	F	C	B	C	C	n/a	C	C	n/a
FS 6	I-680 n/o SR 4	NB	F	C	C	C	C	n/a	C	C	n/a
		SB	F	C	C	C	C	n/a	C	C	n/a
FS 7	SR 242 n/o I-680	NB	F	C	D	D	D	n/a	C	D	n/a
		SB	F	D	C	D	C	n/a	D	C	n/a
FS 8	SR 4 e/o SR 242	EB	F	B	D	B	D	n/a	B	D	n/a
		WB	F[13]	**F**	C	**F**	C	None Required[14]	**F**	D	None Required[15]
FS 9	SR 4 e/o Port Chicago Hwy	EB	F	C	**F**	C	**F**	None Required[16]	D	**F**	Implementation of the ramp metering project scheduled for September 2013 may improve congestion on SR 4; however, any potential effects are not included in the analysis. Widening SR 4 to increase capacity on the segment would improve the conditions to within performance standard. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.
		WB	F	**F**	B	**F**	C	None Required[17]	**F**	D	
FS 10	SR 4 e/o Willow Pass Rd	EB	F	B	**F**	C	**F**	Implementation of the ramp metering project scheduled for September 2013 may improve congestion on SR 4; however, any potential effects are not included in the analysis. Widening SR 4 to increase capacity on the segment would improve the conditions to within performance standard. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.	C	**F**	
		WB	F	**F**	C	**F**	C		**F**	C	
FS 11	SR 4 e/o San Marco Blvd	EB	F	B	E	C	**F**		C	**F**	
		WB	F[18]	**F**	B	**F**	C		**F**	B	
FS 12	SR 4 e/o Railroad	EB	F	C	C	C	C	n/a	C	C	n/a
		WB	F	B	B	B	B	n/a	B	B	n/a

Note:
Bold values represent LOS that exceed performance standards.
Green highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards but the v/c is lower than under the No Action Alternative.
Yellow highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards and the v/c is higher than under the No Action Alternative.
Many physical improvement measures, including but not limited to the ones listed, would be considered consistent with the MMRP.
Some of the physical improvement measures listed may be infeasible due to physical constraints of the location. See Appendix H for further detail.

[13] Performance standard is exceeded under existing conditions AM peak hour.
[14] The v/c ratio under Alternative 1 (v/c 1.57) is lower than under the No Action Alternative (v/c 1.69); therefore, it is not considered an adverse impact requiring mitigation.
[15] The v/c ratio under Alternative 2 (v/c 1.59) is lower than under the No Action Alternative (v/c 1.69); therefore, it is not considered an adverse impact requiring mitigation.
[16] The v/c ratio under Alternative 1 (v/c 1.19) is lower than under the No Action Alternative (v/c 1.21); therefore, it is not considered an adverse impact requiring mitigation.
[17] The v/c ratio under Alternative 1 (v/c 1.25) is lower than under the No Action Alternative (v/c 1.40); therefore, it is not considered an adverse impact requiring mitigation.
[18] Performance standard is exceeded under existing conditions AM peak hour.

Table 4.11-12 Operational Impacts, Freeway Ramps

ID	Ramp	Performance Standards	No Action AM LOS	No Action PM LOS	Alternative 1 AM LOS	Alternative 1 PM LOS	Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2 AM LOS	Alternative 2 PM LOS	Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
FR 1	I-680: Willow Pass Rd NB off-ramp	D	D	**E**	D	**E**	None Required[19]	D	**E**	None Required[20]
FR 2	I-680: Concord Av WB to NB on-ramp	D	C	D	C	D	n/a	C	D	n/a
FR 3	I-680: Willow Pass Rd EB to SB on-ramp	D	B	C	C	C	n/a	C	C	n/a
FR 4	SR 242: Clayton Rd NB off-ramp	D	B	C	B	C	n/a	B	C	n/a
FR 5	SR 242: Concord Av EB to NB on-ramp	D	C	C	C	C	n/a	C	C	n/a
FR 6	SR 242: Clayton Rd SB on-ramp	D	D	C	D	D	n/a	D	D	n/a
FR 7	SR 4: Port Chicago Hwy EB off-ramp	D	C	**F**	C	**F**	None Required[21]	D	**F**	None Required[22]
FR 8	SR 4: Port Chicago Hwy EB on-ramp	D	B	**F**	C	**F**	None Required[23]	D	**F**	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.
FR 9	SR 4: Willow Pass Rd EB off-ramp	D[24]	C	**F**	D	**F**	None Required[25]	**F**	**F**	This interchange is programmed to be reconstructed to improve access and is currently scheduled for completion by 2020. The improvement may alleviate the substandard conditions of this ramp. Potential effects are not included in this analysis.
FR 10	SR 4: Port Chicago Hwy WB on-ramp	D	D	D	D	**E**	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities.	**E**	**F**	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities.
FR 11	SR 4: Port Chicago Hwy WB off-ramp	F[26]	**F**	C	**F**	D	None Required[27]	**F**	E	None Required[28]
FR 12	SR 4: Willow Pass Rd WB on-ramp	F[29]	**F**	C	**F**	C	None Required[30]	**F**	E	None Required[31]

[19] The v/c ratio under Alternative 1 is the same as under the No Action Alternative; therefore, it is not considered an adverse impact requiring mitigation.
[20] The v/c ratio under Alternative 2 is the same as under the No Action Alternative; therefore, it is not considered an adverse impact requiring mitigation.
[21] The v/c ratio under Alternative 1 (v/c 1.43) is lower than under the No Action Alternative (v/c 1.58); therefore, it is not considered an adverse impact requiring mitigation.
[22] The v/c ratio under Alternative 2 (v/c 1.55) is lower than under the No Action Alternative (v/c 1.58); therefore, it is not considered an adverse impact requiring mitigation.
[23] The v/c ratio under Alternative 1 (v/c 1.30) is lower than under the No Action Alternative (v/c 1.36); therefore, it is not considered an adverse impact requiring mitigation.
[24] Performance standard is exceeded under existing conditions PM peak hour.
[25] The v/c ratio under Alternative 1 (v/c 1.36) is lower than under the No Action Alternative (v/c 1.42); therefore, it is not considered an adverse impact requiring mitigation.
[26] Performance standard is exceeded under existing conditions AM peak hour.
[27] The v/c ratio under Alternative 1 (v/c 1.62) is lower than under the No Action Alternative (v/c 1.80); therefore, it is not considered an adverse impact requiring mitigation.
[28] The v/c ratio under Alternative 2 (v/c 1.65) is lower than under the No Action Alternative (v/c 1.80); therefore, it is not considered an adverse impact requiring mitigation.
[29] Performance standard is exceeded under existing conditions AM peak hour.
[30] The v/c ratio under Alternative 1 (v/c 1.88) is lower than under the No Action Alternative (v/c 2.20); therefore, it is not considered an adverse impact requiring mitigation.
[31] The v/c ratio under Alternative 2 (v/c 1.95) is lower than under the No Action Alternative (v/c 2.20); therefore, it is not considered an adverse impact requiring mitigation.

Table 4.11-12 Operational Impacts, Freeway Ramps

ID	Ramp	Performance Standards	No Action AM LOS	No Action PM LOS	Alternative 1 AM LOS	Alternative 1 PM LOS	Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2 AM LOS	Alternative 2 PM LOS	Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
FR 13	SR 4: Willow Pass Rd WB off-ramp	F[32]	**F**	C	**F**	E	This interchange is programmed to be reconstructed to improve access and is currently scheduled for completion by 2020. The improvement may alleviate the substandard conditions of this ramp. Potential effects are not included in this analysis.	**F**	E	This interchange is programmed to be reconstructed to improve access and is currently scheduled for completion by 2020. The improvement may alleviate the substandard conditions of this ramp. Potential effects are not included in this analysis.
FR 14	SR 4: San Marco Blvd EB off-ramp	D[33]	B	**F**	C	**F**	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.	C	**F**	Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.
FR 15	SR 4: SB San Marco Blvd WB on-ramp	D	**F**	B	**F**	C		**F**	C	
FR 16	SR 4: NB San Marco Blvd WB on-ramp	D	**F**	C	**F**	C		**F**	C	
FR 17	SR 4: NB San Marco Blvd EB on-ramp	D	C	D	C	**F**		C	**F**	
FR 18	SR 4: San Marco Blvd WB off-ramp	D	**F**	C	**F**	C		**F**	B	
FR 19	SR 4: SB Bailey Rd EB off-ramp	D	B	D	C	**F**		C	**F**	
FR 20	SR 4: Bailey Rd WB on-ramp	D	**F**	B	**F**	B		**F**	B	
FR 21	SR 4: Railroad Ave WB on-ramp	D	**F**	C	**F**	C		**F**	C	

Note:
Bold values represent LOS that exceed performance standards.
Green highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards but the v/c is the same as or lower than under the No Action Alternative.
Yellow highlighted cells represent LOS under Alternative 1 or Alternative 2 that exceed performance standards and the v/c is higher than under the No Action Alternative.
Many physical improvement measures, including but not limited to the ones listed, would be considered consistent with the MMRP.
Some of the physical improvement measures listed may be infeasible due to physical constraints of the location. See Appendix H for further detail.

[32] Performance standard is exceeded under existing conditions AM peak hour.
[33] Performance standard is exceeded under existing conditions PM peak hour.

The projected LOS for roadway segments analyzed is presented in Table 4.11-10 (Operational Impacts, Roadway Segments). The two impacted roadway segments would operate at the same LOS under Alternative 2 as described in Alternative 1. Similar to Alternative 1, the Bailey Road segment (RS 2) would operate at LOS E during the AM peak hour, which would exceed the performance standard of LOS D for this intersection. However, the v/c ratio under Alternative 1 is lower than that of the No Action alternative; therefore, it is not considered an adverse impact requiring mitigation. Port Chicago Highway (RS 4) north of Olivera Road would operate at LOS F during both the AM and PM peak hours and is considered an adverse impact.

The projected LOS for freeway segments under Alternative 2 is presented in Table 4.11-11 (Operational Impacts, Freeway Segments). The same four freeway segments that would exceed performance standards during AM and/or PM peak hours under Alternative 1 are also considered impacted locations under Alternative 2. However, only one of the impacted freeway segments, SR 4 e/o SR 242 (FS 8), has a v/c ratio under Alternative 2 that is lower than under the No Action alternative; therefore, it is not considered an adverse impact requiring mitigation. Under Alternative 2, SR 4 e/o Port Chicago Hwy (FS 9) has a v/c ratio that is lower than under the No Action alternative in the AM peak hour (westbound), but the v/c ratio is higher than under the No Action alternative in the PM peak hour (eastbound) and thus is considered an adverse impact requiring mitigation. Similar to Alternative 1, SR 4 e/o Willow Pass Rd (FS 10) and SR 4 e/o San Marco Blvd (FS 11) would operate at LOS F during the AM (westbound) and PM (eastbound) peak hours and are considered adverse impacts.

The projected LOS for freeway ramps is presented in Table 4.11-12 (Operational Impacts, Freeway Ramps). The same sixteen freeway ramps would exceed the LOS performance standards during AM and/or PM peak hours under Alternative 1 and are also considered impacted locations under Alternative 2. However, at four of the impacted ramp locations (FR 1, 7, 11, 12), the v/c ratios under Alternative 2 are the same as or lower than under the No Action alternative; therefore, they are not considered adverse impacts requiring mitigation. Twelve freeway ramps would operate at LOS E or F during the AM and/or PM peak hours and are considered adverse impacts. Unlike Alternative 1, SR 4-Port Chicago Highway EB on-ramp (FR 8) and SR 4-Willow Pass Road EB off-ramp (FR 9) are considered adverse impacts under Alternative 2. All twelve adverse impacted locations provide access to and from SR 4.

Under Alternative 2, the delay indexes along the Central and East County freeway corridors of I-680, SR 4, and SR 242 and the HOV utilization on SR 4 in East County are projected to be within MTSO standards.

Mitigation measures that may be considered in accordance with the adopted MMRP are identified in Tables 4.11-9, 4.11-10, 4.11-11, and 4.11-12. Many physical improvement measures, including but not limited to the ones listed, would be considered consistent with the MMRP. However, as discussed in Alternative 1, these measures primarily entail capacity increase, and under the city's Climate Action Plan (Book 3 of the Area Plan), the city plans to mitigate transportation impacts through implementation of the design standards in its Action Plan and other TDM strategies to reduce VMT in support of state and local policies to reduce GHGs. Mitigation measures would be the same for the majority of traffic locations under both alternatives, with the exception of four intersections (Int 3, 18, 20, and 21), one freeway segment (FS 9), and two freeway ramps (FR 8 and FR 9) that would require mitigation or different mitigation under Alternative 2.

Although implementation of measures identified in the Climate Action Plan and the MMRP would mitigate impacts that would occur under Alternative 2, the extent of the reduction in impacts is not known as the date of this analysis, prior to the establishment of specific development proposals; therefore, these impacts as they are currently defined would be significant and adverse.

4.11.4 No Action Alternative

The No Action Alternative would not result in any development or new transportation infrastructure on the former NWS Concord. The model used in this analysis considered future development and transportation improvements around the property, and, therefore, the No Action Alternative has the potential to impact nine intersections, one roadway segment, four freeway segments, and 13 freeway ramps. Under the No Action Alternative, the delay indexes along the Central and East County freeway corridors of I-680, SR 4, and SR 242 and the HOV utilization on SR 4 in East County are projected to be within MTSO standards. Impacts on transportation locations under the No Action Alternative are presented in Tables 4.11-9 through 4.11-12.

4.12 Utilities and Infrastructure

This section summarizes the potential environmental impacts on utilities and infrastructure resulting from implementation of Alternative 1, Alternative 2, and the No Action Alternative at the former NWS Concord. It includes a discussion of water supply systems, stormwater collection systems, sanitary sewage collection and treatment systems, and other utilities and infrastructure, along with mitigation measures.

The level of detail provided in this EIS covers the basic infrastructure that would be needed to serve new development within the former NWS Concord. More detailed utility system planning will occur as development takes place. The timing and phasing of development, as well as more specific information on the types of development, are likely to affect utility planning and design, as will future advances in technology and changing federal and state requirements. The level of detail about each alternative as presented in Chapter 2 is broad enough to allow developers to respond to such changes and focuses on basic principles intended to ensure that utilities and infrastructure are adequate, available when development occurs, and consistent with the project's sustainability goals.

For additional information regarding the methodology and assumptions used to project utility demand, please refer to Appendix F.

4.12.1 Alternative 1

4.12.1.1 Water

Water Supply and Demand

Upon disposal of the former NWS Concord, CCWD would assume responsibility for providing water supply to any future developments located within the site. Reuse of the site consistent with Alternative 1 is anticipated to result in a water demand of approximately 3.2 mgd at full build-out (see Table 4.12-1). Water demand was projected using planning multipliers for various land uses based on appropriate units of measure (i.e., square footage and number of units) (Nelson 2004). Note: The projected water demand as outlined in Table 4.12-1 does not account for irrigational water needs because planning multipliers were not available for that use (Nelson 2004). For more information on the methodology and assumptions used to estimate water demand, see Appendix F. As indicated in Table 4.12-1, the Village Neighborhoods district would require the most water because of its composition of single-family homes and townhomes. Single-family homes have the highest water demand (Nelson 2004).

Table 4.12-1 Projected Water Demand (gpd) at Full Build-out for Alternatives 1 and 2

District	Water Demand (gpd) Alternative 1	Water Demand (gpd) Alternative 2
North Concord TOD Core	560,250	434,250
North Concord TOD Neighborhoods	405,000	766,620
Central Neighborhoods	541,000	546,800
Village Centers	78,240	111,000
Village Neighborhoods	1,530,000	1,514,040
Commercial Flex	122,925	122,925
Campus	48,000	48,000
First Responders Training Center	360	N/A
Greenways, Citywide Parks, and Tournament Facilities	3,960	3,960
Conservation Open Space	N/A	N/A
Total	**3,290,135**	**3,547,595**

The CCWD estimates that the existing average daily demand in the City of Concord is approximately 20.6 mgd, or 23,104 AFY, based on 2013 usage data from the CCWD. Most of this water is supplied via a contract with the U.S. Bureau of Reclamation. CCWD's contract with the U.S. Bureau of Reclamation currently allows delivery of up to 195,000 AFY within the district (CCWD 2016). The 2013 usage total should contain a caveat due to the influence of drought and economic conditions during that year. Therefore, it reflects a lower annual total usage. The typical CCWD maximum annual usage for the CCWD service area as a whole is 37.5 mgd, or 42,000 AFY (Quimby 2014). Using that number, the future water demand associated with the reuse of the former NWS Concord under Alternative 1 represents approximately 8.5 percent of the CCWD typical maximum annual water usage.

To illustrate the ability of future development to be supported by the existing water supply, in June 2010, the CCWD completed a water supply assessment for the site. According to the water supply assessment, proposed development under Alternative 1 would fall within the level of growth assumed for the CCWD service area as identified in its 2005 Urban Water Management Plan. The water supply assessment notes that there may be potential supply shortfalls in the latter years of a multiple-year drought period. In order to meet demands in drought years, the CCWD would obtain supplemental supplies through short-term conservation measures, expansion of Los Vaqueros Reservoir, and water transfers and exchanges, such as those under the agreement with the East Contra Costa Irrigation District (City of Concord January 2012c). In 2012, the Los Vaqueros Reservoir Expansion project increased its capacity by 60,000 AFY, providing additional water sources to support future development projects as well as increased storage capabilities during times of drought.

The projected total future water demand of 3.2 mgd could be reduced with the implementation of water conservation measures, namely in the form of reuse of raw and recycled water as an irrigation supply. Efficient use of raw or recycled water is a key component of CCWD's long-term sustainable water supply strategy. The use of CCCSD treated wastewater for approved uses would reduce the demand for potable water and is something that the City of Concord has committed to in the MMRP, where feasible, in preference to untreated or raw water (City of Concord 2010). The anticipated irrigation demand upon full build-out would be based on the assumption that parks and recreational facilities; portions of parks; and residential, commercial, and other development would be irrigated by untreated or recycled water. The CCCSD has provided the City of Concord a "will serve" letter indicating the district's intent to supply 5.3 mgd of recycled water for use at the site (CCCSD 2009).

Additionally, as outlined in the MMRP, the CCWD and the City of Concord will implement demand-side management strategies to reduce water demand, in accordance with General Plan Policy PF-1.1.2, prior to development of the former NWS Concord (City of Concord 2010). Examples include utilizing high-efficiency fixtures and appliances in residential units, high-efficiency irrigation systems, and water-wise landscape techniques for both residential and commercial properties.

Lastly, the city has committed in the MMRP to coordinate with the CCWD prior to development to ensure that adequate water supply, quality, and distribution infrastructure will be available before permitting new development. The city will adhere to this policy in finalizing development plans during permitting and review.

In summary, the implementation of Alternative 1 would be associated with an increase in water demand. However, because: a water supply assessment has been prepared and identifies that sufficient water is currently available to support future development, development is required to ensure that additional supply is secured prior to development, and recycled water would be used as a conservation method, there would be no significant, long-term adverse impacts on water supply under Alternative 1.

Water Treatment and Distribution: Operation and Maintenance

As indicated in Section 3.12.2.1, the CCWD owns and operates two water treatment facilities that treat water for the region. The Bollman Water Treatment Plant is already operating near its full capacity, but the Randall-Bold WTP has available capacity to treat up to an additional 30 mgd if conditions warrant an expansion (CCWD 2007). Therefore, the WTP has the existing capacity to treat the additional 3.2 mgd of potable water that would be needed to serve new development under Alternative 1. However, in order to utilize the facility at maximum capacity, the WTP would require upgrades, and the CCWD currently has no plans to expand. Thus, the increase in projected water demand would represent a moderate impact on the operation and maintenance of the Randall-Bold WTP capacity.

Upgrades to the water delivery (to the plant) and distribution (from the plant) infrastructure would also be needed in order to serve new development, as existing infrastructure is inadequate (City of Concord 2010). New infrastructure may include water storage tanks, pump stations, and other facilities, such as treated and untreated water conveyance. Alternative 1 includes plans for construction of a new water distribution system that would have two integrated components: a potable water distribution system and a recycled water distribution system. The new distribution system may also include the construction of a third component that would convey raw or untreated water directly from the Contra Costa Canal to supply new development with untreated water for uses such as irrigation. Existing infrastructure at the former NWS Concord is not adequate to deliver and distribute untreated water to new development for irrigation and other purposes, thus requiring the construction of the third component of the distribution system.

Ground disturbance would be associated with laying new distribution lines, and the developer(s) will be required to comply with local and state regulations to minimize disturbance. All new distribution systems will be constructed to ensure that they are adequately sized.

As noted previously, the City of Concord has committed to work with CCWD to ensure that adequate water supply, quality, and distribution infrastructure will be available before permitting new development. In accordance with the MMRP, additional water treatment and distribution infrastructure would need to be constructed prior to permitting new development that would exceed the existing capacity.

Recycled Water Distribution System

To facilitate the use of recycled water to reduce overall water demand upon full build-out, a new distribution system would be needed. Alternative 1 incorporates one of the mitigation measures that the City of Concord committed to in the MMRP, which requires developers to install “purple pipe” in

outdoor irrigation systems throughout the project area to maximize the potential use of recycled water to reduce demand on the potable water and raw water supplies (City of Concord 2010).

To facilitate construction of the "purple pipe," a connection would either be constructed from the existing CCCSD recycled water facilities adjacent to the WWTP and running east along SR 4 to Port Chicago Highway or an onsite option would be implemented. Construction of a new main would require the CCCSD to increase the current recycled water production capacity at the WWTP, which is currently 3 mgd (Leavitt 2013) and would result in the need for additional transmission, pumping, and storage facilities associated with the main for distribution.

Alternatively, a new recycled water facility would be developed as part of Alternative 1 within the former NWS Concord site area that would allow for the treatment and conveyance of up to 3.4 mgd and at least 2.5 mgd of wastewater for non-potable reuse (City of Concord 2010). This would eliminate the need to expand capacity at the CCCSD WWTP.

To incorporate recycled water into the overall plan for water supply at full build-out, the City of Concord would cooperate with CCCSD and other service providers to develop a wastewater reclamation program as a supplement to water supplies, as per General Plan policy PF-1.2.3. Additionally, the City of Concord has committed to additional mitigation measures in the MMRP, including the provision of data to the CCCSD regarding future demand for untreated or raw water supplies so that it can demonstrate adequate supply, and coordinating with CCWD to ensure that future development includes construction of the untreated water distribution system, storage tanks/ponds, filtering systems, and other facilities needed to supply recycled water in accordance with CCWD standards.

In summary, Alternative 1 would result in an increase in water demand and a need for infrastructure updates. However, because development is required to comply with local regulations and mitigation measures adopted by the city, there would be no significant, long-term adverse impacts on water treatment and treated-water distribution under Alternative 1.

4.12.1.2 Stormwater and Collection Systems

Disposal and reuse of the former NWS Concord consistent with Alternative 1 would increase the impervious surface throughout the site area by introducing new hard surfaces (i.e., structures, roads, and parking). This would increase the rate and amount of surface runoff because the majority of the existing site is considered pervious area. Full build-out under Alternative 1 is estimated to result in a total of approximately 1,442 acres of impervious area, an increase of 301 percent above existing conditions. For more information on the methodology and assumptions used to calculate existing and future impervious surface, see Appendix F.

In accordance with the city's municipal code, Chapter 86, "Stormwater Management and Grading and Erosion Control," new development would be required to submit a grading permit and a Stormwater Control Plan that meets the requirements of the most recent version of the Contra Costa Clean Water Program Stormwater C.3 Guidebook (City of Concord 2013b). C.3 is a provision in the Joint Municipal NPDES permit that requires appropriate source control, site design, and stormwater treatment measures in new development projects to address both pollutant discharges and to prevent increases in runoff flows (CCCWP [Contra Costa Clean Water Program] 2012). Therefore, any proposed development will be required to comply with the CCCWP's Joint Municipal NPDES permit. Additionally, the Joint Municipal NPDES Permit requires that a low-impact development (LID) approach be employed in site design. LID techniques include a variety of BMPs that maintain or restore predevelopment hydrology and reduce pollutant loading of stormwater. LID design strategies include preserving natural drainage features, minimizing impervious surface, using bioretention facilities (vegetated depressions that collect runoff and facilitate infiltration), permeable pavement, and dispersal of runoff to pervious areas.

In addition, in accordance with General Plan Policy PF-1.3.1, new development would be required to include any needed storm drains that are not part of the city's master storm drain system and to incorporate features into site improvement plans that would minimize surface runoff, such as additional landscaped areas and/or swales, permeable paving, parking area design that minimizes runoff, or stormwater detention basins (City of Concord 2010). As outlined in the MMPP, the developer(s) will also be required to consult with the CCCFC&WCD to manage any additional stormwater generated at the site. The CCCFC&WCD maintains and oversees maintenance of surface waterbodies within its service area, including Mt. Diablo Creek and the Holbrook Channel, and ensures that there is adequate capacity to manage stormwater runoff from development.

In summary, because development is required to comply with local regulations adopted by the city in the General Plan and municipal code, as well as requirements in the Joint Municipal NPDES permit, the implementation of Alternative 1 would not result in significant, long-term adverse impacts attributable to an increase in the rate and volume of surface runoff from the increase in impervious surfaces.

Operation and Maintenance

As discussed in Section 3.12.3.2, stormwater from the site drains to Mt. Diablo Creek, the Holbrook Channel and connected urban drainages, and Willow Creek. Additionally, during the wet season, the Contra Costa Canal also acts as a drainage channel within the site.

The city will require that storm drainage systems for the redeveloped site be designed to safely convey runoff from developed areas of the site in accordance with the city's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31). Under this ordinance, a stormwater control plan that meets the criteria in the most recent version of the CCCWP C.3 Guidebook is required. C.3 is a provision in the Joint Municipal NPDES permit[34] that requires appropriate source control, site design, and stormwater treatment measures in new development projects to address both pollutant discharges and to prevent increases in runoff flows (CCCWP 2012). Refer to Section 4.14.2.1 for a complete discussion of the C3 provisions for stormwater design.

Under Alternative 1, the property would be transferred to the City of Concord, and the city or property developer(s) would be responsible for integrating stormwater features into the design of specific development plans; these features may include stormwater ponds, swales, and detention facilities. Increases in runoff would be mitigated through adherence to the provisions in local codes as well as through the implementation of the type of measures outlined in the *Conceptual Plan for Restoration and Flood Management* (ESA PWA 2011) prepared by the City of Concord to support the reuse plan. The specific measures outlined in the *Conceptual Plan for Restoration and Flood Management* are discussed in detail in Section 4.14.2.1.

In summary, Alternative 1 would result in a 301-percent increase in impervious surface area, and new stormwater infrastructure would be required. However, because future development at the former NWS Concord is required to comply with mitigation measures outlined in the MMRP, including compliance with state and location regulations and permit conditions regarding stormwater management. With adherence to state and local permit conditions, no significant impacts to stormwater and collection systems are anticipated.

[34] The joint municipal NPDES permit for stormwater discharges is coordinated by the CCCWP, which consists of the City of Concord, the Contra Costa County Flood Control and Water Conservation District, Contra Costa County, and eighteen other Contra Costa cities.

4.12.1.3 Sanitary Collection and Treatment Systems

Wastewater Volume

The former NWS Concord is currently vacant, and, therefore, no wastewater is being produced at this time. At full occupancy, wastewater generation is expected to be approximately 3.7 mgd; this total is based on standard multipliers for various land uses (Nelson 2004). Volumes for both alternatives are shown in Table 4.12-2. For more information on the methodology and assumptions used to estimate wastewater generation, see Appendix F.

Table 4.12-2 Projected Wastewater Volume (gpd) at Full Build-Out for Alternatives 1 and 2

District	Wastewater Flow (gpd) Alternative 1	Wastewater Flow (gpd) Alternative 2
North Concord TOD Core	552,550	439,150
North Concord TOD Neighborhoods	442,200	2,280,900
Central Neighborhoods	536,640	548,942
Village Centers	251,716	281,200
Village Neighborhoods	1,261,080	1,248,312
Commercial Flex	599,845	599,845
Campus	95,200	95,200
First Responders Training Center	288	N/A
Greenways, Citywide Parks, and Tournament Facilities	3,168	3,168
Conservation Open Space	N/A	N/A
Total	**3,742,687**	**5,496,717**

The CCCSD WWTP has a permitted effluent discharge limit of 53.8 mgd average dry-weather flow. In 2012, the district treated approximately 33.2 mgd (Leavitt 2013). Therefore, there is currently capacity for treatment at the WWTP to accommodate build-out of the former NWS Concord site under Alternative 1.

The effluent discharges from the CCCSD WWTP are regulated by the California RWQCB, San Francisco Bay Region, under the NPDES permit for the WWTP. The effluent discharge limitations were based on projections to allow for anticipated growth identified in land use plans prepared by jurisdictions within the CCCSD's service area through 2035, as understood in the year 2000. Therefore, redevelopment of the former NWS Concord was not assessed in these projections. However, since sewer connections are issued on a first-come, first-served basis, there may be sufficient capacity to comply with the discharge limit at the time wastewater utility service is needed for new development at the former NWS Concord site. While this could cause CCCSD to reach its effluent discharge limit sooner than 2035 if all other development projects analyzed are also realized, CCCSD has indicated that due to the decrease in average gpd of wastewater generated within the service area, build-out of Alternative 1 is unlikely to cause the district to request approval from the water board to increase its discharge limits in order to treat additional wastewater (Leavitt 2013). Additionally, as outlined in the MMRP, the City of Concord has committed to reaching an agreement with CCCSD such that it commits to improving its collection system and treatment process and to pursuing a sufficient discharge limit, as needed in the future, to accommodate redevelopment at the former NWS Concord.

Collection System

The CCCSD and City of Concord are currently building a new gravity connection to the CCCSD's A-Line relief interceptor. This project will increase the wet-weather flow capacity of the district A-line

interceptor, which receives the majority of CCCSD's sewage and transports it to the CCCSD WWTP facility (Mountain Cascade, Inc. 2009). Once built, the interceptor will provide sufficient capacity to accept wastewater flow anticipated due to build-out of Alternative 1 on the former NWS Concord site. However, depending on the split of wastewater flow between CCCSD and the city's collection systems, improvements may be needed to one or both systems, such as the city's existing Willow Pass Road and Concord Boulevard pipelines, and upgrade/relocation of CCCSD's Concord Industrial Pumping Station and associated gravity lines serving the North Concord area (City of Concord 2010). In addition, CCCSD's WWTP, which receives all wastewater from the City of Concord and the CCCSD, may need improvements to its solids-handling facilities and primary sedimentation processes in order to treat the increased flow of wastewater.

Therefore, in summary, Alternative 1 would result in an increase in demand for wastewater capacity and a potential need for new or upgraded infrastructure. However, because development is required to comply with local regulations and mitigation measures adopted by the city, there would be no significant, long-term, adverse impacts on sanitary collection and treatment under Alternative 1.

4.12.1.4 Other Utilities and Infrastructure

Solid Waste and Recycling Management

For simplicity, this analysis assumes that the construction portion of the proposed action would consist primarily of the generation and management of C&D waste, and the operational portion of the proposed action would consist primarily of the generation and management of non-C&D waste. Appendix F contains calculations and other information supporting this analysis.

Construction and demolition activities under Alternative 1 would generate large quantities of C&D waste. About 709,000 square feet of building space (ALH 2013) and 221 weapons magazines, as well as other infrastructure, would be demolished at the former NWS Concord in preparation for development of the property. To build the facilities required by Alternative 1, about 19 million square feet of residential floor space and 6.1 million square feet of commercial floor space would be constructed, as well as associated roads, parking areas, and other facilities. As shown in Appendix F, it is estimated that 181,000 tons of C&D waste would be generated by demolition and construction activities.

In accordance with the California Integrated Waste Management Act of 1989 (AB 939), 50 percent of solid waste is required to be diverted from state landfills via methods such as source reduction and recycling. As a result of the state requirement and because components of the standard C&D waste stream, such as metal, have appreciable recycled value, Contra Costa County has many C&D recyclers (Central Contra Costa Solid Waste Authority 2016). For the proposed action, the city also expects that C&D waste would be reused onsite during construction as hard fill and for other purposes, which would reduce disposal costs and contribute to waste diversion. It is assumed for this analysis that onsite reuse of C&D waste is included in the 50 percent diversion. Assuming the 50 percent diversion rate requirement is met, about 90,500 tons would require landfilling during the build-out period. Demolition and construction likely would not be spread evenly throughout the build-out period and would tend to be concentrated in earlier years, when large portions of the former NWS Concord property would be demolished and cleared for development. Therefore, to be conservative for this analysis, it is assumed that 75 percent of the 90,500 tons (equaling 68,000 tons) of C&D waste would require landfilling in the first 10 years of the 25-year build-out period. That reduces to about 26 tons per day of C&D waste requiring landfilling in those first 10 years (see Appendix F).

During operation of Alternative 1, it is estimated that 49,884 tons of non-C&D solid waste would be generated per year at full build-out by the new commercial, residential, industrial, and recreational activities (City of Concord 2010). In addition to the statewide 50-percent diversion rate, a mandatory

commercial recycling measure was adopted in AB 32 in 2012 (CalRecycle 2013). Assuming a 50-percent diversion rate, about 25,000 tons of non-C&D solid waste would be landfilled each year once full build-out has been achieved. To be conservative for this analysis, it is assumed that non-C&D solid waste is generated at full build-out rates during the last 10 years of development of the 25-year build-out period. That reduces to about 68 tons per day of non-C&D waste requiring landfilling during the last 10 years of the build-out period (see Appendix F).

The permitted tonnages for the Potrero Hills Landfill (PHL) and Keller Canyon Landfill (KCL)—the two landfills used by the City of Concord—are 3,400 and 3,500 tons per day, respectively (Solano County Department of Resource Management 2012; Contra Costa Environmental Health 2009). In 2012, PHL received about 1,075 tons of waste per day (CalRecycle 2014c), and KCL received about 2,000 tons of waste per day (CalRecycle 2014d)—well below what each landfill may accommodate by permit.

Solano County has twice approved the expansion of the PHL to its current capacity of 83.1 million cy, extending the landfill's anticipated life by 35 years through approximately the year 2048 (San Francisco Bay RWQCB 2011).[35] The PHL is at 83 percent capacity according to CalRecycle (CalRecycle 2014a). In 2008, Keller Canyon Landfill Company applied for an amendment to its current land use permit to increase the allowable daily tonnage permitted for disposal at the landfill from 3,500 to 4,900 tons (Contra Costa County n.d [b]). The land use permit amendment application was still under review as of 2015. The KCL solid waste facility permit (Facility/Permit Number 07-AA-0032) expired on December 14, 2014; public records do not show that it has been renewed, presumably because updating and renewing the solid waste facility permit is tied to amending the land use permit, which is under review. According to CalRecycle, the KCL is currently operating and the allowable permitted tons per operating day are still 3,500 (Contra Costa Environmental Health 2009; CalRecycle 2014b). The KCL is at 15 percent of its 75-million cy capacity according to CalRecycle (CalRecycle 2014b) and has an anticipated closure date of 2050 according to its permit (Contra Costa Environmental Health 2009). Other CalRecycle records list the KCL closure date as 2030 (CalRecycle 2014b).

The solid waste requiring landfilling during the first 10 years of the build-out period is assumed to be dominated by the 26 tons per day of C&D waste calculated to be generated during that time, which would represent a 1-to-2-percent increase over the waste received at the PHL or KCL in 2012. The solid waste requiring landfilling during the last 10 years of the build-out period is assumed to be dominated by the 68 tons per day of non-C&D waste calculated to be generated during that time, which would represent a 3 percent to 6 percent increase over the waste received at the PHL or KCL in 2012. Under these assumptions, solid waste generated during the middle 5 years of the build-out period would be no greater than 68 tons per day and would likely be much less because demolition and construction would be more than 75 percent completed, and the developed areas would be less than 100 percent operational. The projected closure dates for both PHL and KCL would likely be affected because the 1-to-6-percent increases, although small on a daily basis, would compound when experienced over 10-year periods. The current permitted disposal footprints for both PHL and KCL are a fraction of the land owned by the disposal companies at those locations, and presumably the landfill companies could apply to expand their disposal footprints as necessary.

Therefore, under Alternative 1, there would be a minor impact on the environment from small increases in the amount of solid waste requiring disposal in a landfill compared to current conditions. The impacts would not be significant because the C&D waste and non-C&D waste would be generated over long

[35] Landfills are permitted on the basis of weight, i.e., allowable tons per day; however, landfill capacities are established on the basis of volume, i.e., cubic yards. Solid waste has varying densities; therefore, heavy waste will fill up the landfill less quickly.

segments of the build-out, a 50 percent diversion rate from landfilling is required by law (and the City of Concord requires C&D waste to be diverted from landfills at a minimum diversion rate of 65%), and the small increases in landfilled waste could be accommodated by the PHL and KCL, which operate below capacity.

Electricity

PG&E would provide electricity for development within the former NWS Concord site. Under Alternative 1 at full build-out, total electricity demand is projected to be approximately 62 MW (City of Concord 2010). Future electricity demand and the ability of PG&E to accommodate that demand will be addressed through coordination between the City of Concord and PG&E, as discussed further below.

Because there is no existing major electricity distribution infrastructure on the site, additional infrastructure would need to be built in order to accommodate new development. New offsite electrical infrastructure would be also required to connect the development's distribution system to the existing transmission infrastructure, and a new substation would need to be developed within the site area. From the substation, electrical distribution infrastructure would span out to serve the development.

A typical PG&E distribution substation site with a footprint of approximately 5 acres could be located near one of the following (see Figure 4.12-1):

1. South of the intersection of SR 4 and Willow Pass Road
2. West of Willow Pass Road near the southerly boundary of the project
3. East of Willow Pass Road near the southerly boundary of the project
4. The southeast corner of the project near Concord Boulevard and West Street

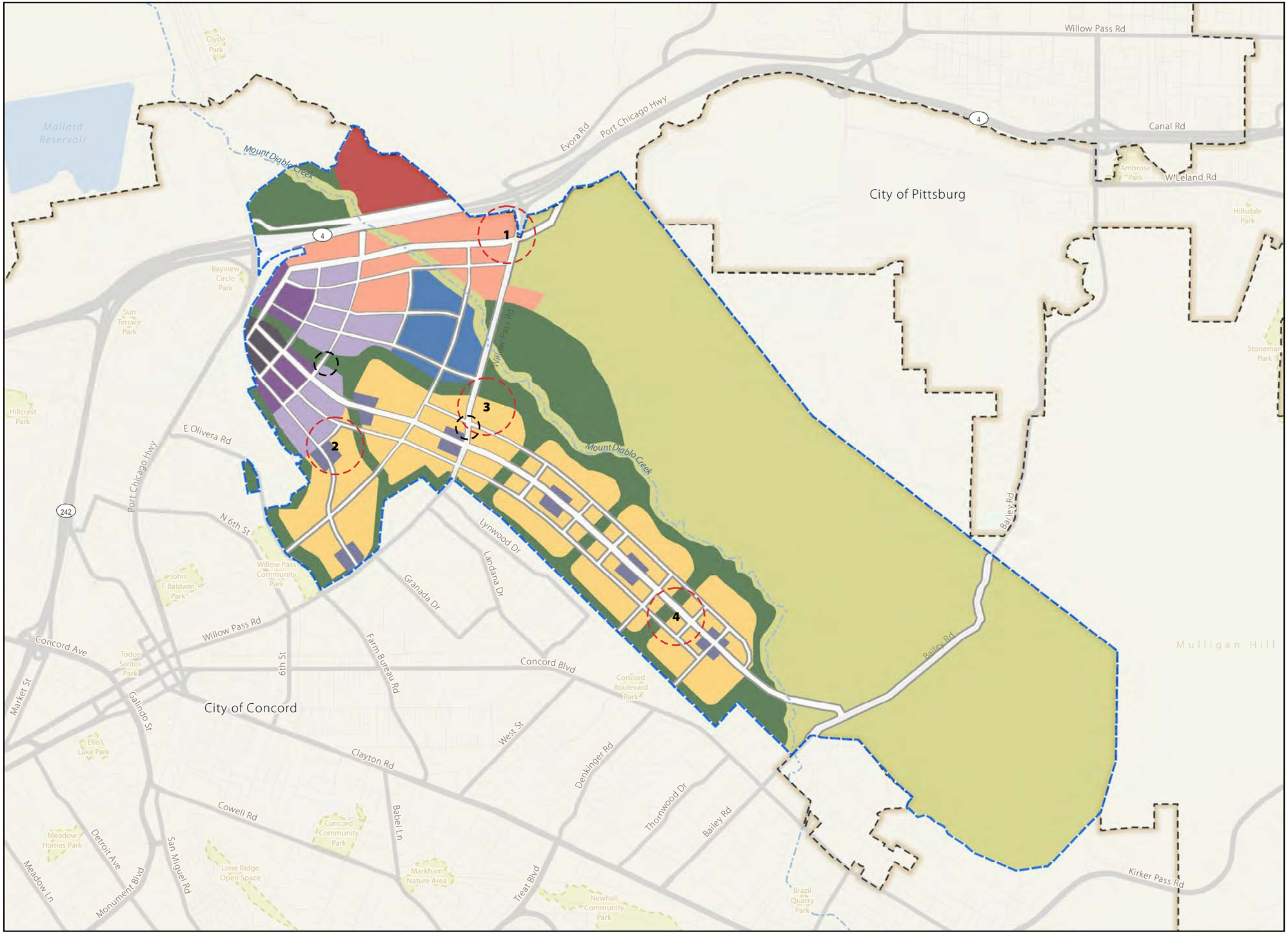
For options 1 through 3, the overhead transmission line to serve the substation would tie into PG&E's existing Pittsburg-Tidewater 230kV transmission line near San Marco Boulevard and SR 4 in Pittsburg and run southwesterly to the project site. For location 4 near Concord Boulevard and West Street, the transmission line would tie into the Pittsburg-Tidewater 230kV near Bailey Road, south of West Leland Road in Pittsburg, and run west to the project site or the Pittsburg-Clayton 115kV near Kirker Pass Road (City of Concord 2010).

Ground disturbance would be associated with the construction of necessary infrastructure, such as overhead transmission lines and a new substation, and the developer(s) and/or PG&E will be required to comply with local and state regulations to minimize disturbance.

The existing PG&E Tidewater Substation located adjacent to the former NWS Concord may serve a portion of the area that would be developed under Alternative 1, while the proposed new substation may serve some of PG&E's current customers in Martinez (City of Concord 2010).

In accordance with the MMRP, the City of Concord has committed to coordinate with PG&E and provide data for PG&E to assess the future electricity demand, and developers are required to study the environmental impacts of such facilities in their approval process prior to the city approving development at the site. The City of Concord has also committed to requiring PG&E to demonstrate that it can upgrade its existing electrical supply infrastructure and construct new electrical substations either onsite or offsite to meet potential energy demand for the development.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Illustrative_Future_Substation_Locations_Alternative_1.mxd



*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

Figure 4.12-1

Potential Locations of the Electrical and Natural Gas Facilities

Former NWS Concord

Concord, California

Legend

- Former NWS Concord
- City Limits
- Illustrative Future Gas Regulator Locations
- Illustrative Future Substation Locations
- Roadways

*Alternative 1 Types of Districts

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways, Citywide Parks and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

N

SCALE

0 0.5 1 Miles

SOURCE: City of Concord, 2010.

This page intentionally left blank.

In summary, because future development at the former NWS Concord is required to comply with mitigation measures outlined in the MMRP, there would be no significant, long-term adverse impacts on energy infrastructure or the availability of electricity under Alternative 1.

Natural Gas

Natural gas would continue to be provided by PG&E. It is anticipated that a total of approximately 6 megatherms of natural gas would be needed annually at full build-out under Alternative 1 (City of Concord 2010). PG&E has confirmed that there is sufficient capacity in the adjacent existing gas transmission systems to serve the proposed reuse of the site in a manner consistent with Alternative 1 (City of Concord 2010). However, additional infrastructure would need to be developed in order to distribute the gas to the redeveloped site because no gas distribution system currently exists onsite.

Although the specific location of additional infrastructure has not yet been determined, a new distribution feeder main would likely be built to tap into the existing gas transmission line near Port Chicago Highway and SR 4. The main would then run south, below ground, and within a roadway or public utility easement to a gas regulator site that would be approximately 1 acre in size. The location of the gas regulating station will be determined during the future design process; however, two potential locations include a site at the southeast border of the planned TOD near the North Concord/Martinez BART Station or a site on Willow Pass Road near the planned community facilities (see Figure 4.12-1; City of Concord 2010). Distribution mains would radiate out from the gas regulator station to serve the development (City of Concord 2010). Ground disturbance would be associated with the construction of necessary infrastructure for the gas transmission lines and a potential new gas regulator site, and the developer(s) and/or PG&E will be required to comply with local and state regulations to minimize disturbance.

As outlined in the MMRP, the city has committed to coordinate with PG&E and provide data for PG&E to assess future natural gas demand. Additionally, the city is required to withhold development approvals until PG&E has demonstrated that it can supply the required natural gas service to support development of Alternative 1 and that the new facilities and infrastructure have been assessed by the developer with respect to environmental impacts (City of Concord 2010).

In summary, because future development is required to comply with mitigation measures outlined in the MMRP, there would be no significant, long-term adverse impacts on natural gas infrastructure or the availability of natural gas under Alternative 1.

Telecommunications

AT&T, Comcast, and/or Astound are the current communications providers in the City of Concord and would continue to provide services in the future, including at the former NWS Concord (City of Concord 2010). However, because minimal information technology/communication services and facilities are at the site currently, Alternative 1 would require additional services and the development of new facilities.

As outlined in the MMRP, the City of Concord has committed to requiring communication providers to demonstrate they can supply sufficient additional services to support the development of Alternative 1. Because development is required to comply with mitigation measures outlined in the MMRP, there would be no significant, long-term adverse impacts on information technology/communications infrastructure under Alternative 1.

4.12.2 Alternative 2

4.12.2.1 Water

Water Supply and Demand

As discussed for Alternative 1, upon disposal of the former NWS Concord, CCWD would assume responsibility for providing water supply to any future developments located within the site. Reuse of the site consistent with Alternative 2 is anticipated to result in a water demand of approximately 3.5 mgd at full build-out (see Table 4.12-1). Using the typical annual maximum water usage for the CCWD water service area, the future water demand associated with Alternative 2 represents approximately 9 percent of that total (Quimby 2014). The North Concord TOD Neighborhoods district would have the greatest water demand because of its number of residential units, specifically those designated as high-density, multi-unit housing. Similar to Alternative 1, the projected total future water demand (3.5 mgd) could be reduced with the implementation of water-conservation measures, namely in the form of reuse of raw and recycled water as irrigation supply.

Thus, like Alternative 1, reuse under Alternative 2 would be associated with an increase in water demand. However, because a water supply assessment has been prepared that identifies that sufficient water is currently available to support future development, development is required to ensure that additional supply is secured prior to development, and recycled water would be used as a conservation method, there would be no significant, long-term adverse impacts on water supply under Alternative 2.

Water Treatment and Distribution: Operation and Maintenance

Impacts on water treatment and distribution under Alternative 2 would be similar to those discussed for Alternative 1. Alternative 2 would result in an increase in water demand and a need for infrastructure updates. However, because development is required to comply with local regulations and mitigation measures adopted by the city, there would be no significant, long-term adverse impacts on water treatment and treated water distribution under Alternative 2.

4.12.2.2 Stormwater and Collection Systems

Similar to Alternative 1, disposal and reuse of the former NWS Concord consistent with Alternative 2 would increase the impervious surface throughout the site area by introducing new hard surfaces. This would increase the rate and amount of surface runoff because the majority of the existing site is considered pervious area. Full build-out under Alternative 2 is estimated to result in a total of approximately 1,369 acres of impervious area, an increase of 281 percent above existing conditions. For more information on the methodology and assumptions used to calculate existing and future impervious surface, see Appendix F.

Impacts on stormwater and collection systems under Alternative 2 would be similar to those under Alternative 1. Because development is required to comply with local regulations adopted by the City in the General Plan and municipal code, as well as requirements stipulated in the Joint Municipal NPDES permit, development under Alternative 2 would not result in significant, long-term adverse impacts attributable to an increase in the rate and volume of surface runoff from the increase in impervious surfaces.

Alternative 2 would result in a 281-percent increase in impervious surface area, and new stormwater infrastructure would be required; however, with mitigation, the impact would not be significant. The city's mitigation includes required compliance with state and local regulations and permit conditions regarding stormwater management.

4.12.2.3 Sanitary Collection and Treatment Systems

Wastewater Volume

The former NWS Concord is currently vacant, and, therefore, no wastewater is being produced at this time. At full occupancy, wastewater generation under Alternative 2 is expected to be approximately 5.5 mgd (see Table 4.12-2); this total is based on standard multipliers for various land uses (Nelson 2004). For more information on the methodology and assumptions used to estimate wastewater generation, see Appendix F.

The CCCSD WWTP has a permitted effluent discharge limit of 53.8 mgd average dry-weather flow. In 2012, the district treated approximately 33.2 mgd (Leavitt 2013). Therefore, there is currently capacity for treatment at the WWTP to accommodate build-out of the former NWS Concord site under Alternative 2.

Collection System

Similar to Alternative 1, Alternative 2 would result in an increase in demand for wastewater capacity and a potential need for new or upgraded infrastructure. However, because development is required to comply with local regulations and mitigation measures adopted by the city, there would be no significant, long-term adverse impacts on sanitary collection and treatment under Alternative 2.

4.12.2.4 Other Utilities and Infrastructure

Solid Waste and Recycling Management

Similar to Alternative 1, this analysis assumes that the construction portion of the proposed action would consist primarily of the generation and management of C&D waste and the operational portion of the proposed action would consist primarily of the generation and management of non-C&D waste. Appendix F contains calculations and other information supporting this analysis.

The C&D waste generated during demolition activities of Alternative 2 would be the same as for Alternative 1. Alternative 2 differs slightly from Alternative 1 in the estimate of C&D waste generated from construction, which would be greater for the intensified reuse alternative because there would be more residential development in the project area—nearly 25 million square feet, compared to 19 million square feet for Alternative 1. The amount of commercial floor space to be built under Alternative 2 is the same as for Alternative 1. As shown in Appendix F, it is estimated that 194,000 tons of C&D waste would be generated by demolition and construction activities. Assuming a 50-percent diversion rate, about 97,000 tons would require landfilling during the build-out period, with 73,000 of those tons expected to require landfilling in the first 10 years of the 25-year build-out period. That reduces to about 28 tons per day of C&D waste requiring landfilling in those first 10 years (see Appendix F), which is only marginally greater than for Alternative 1.

Similarly, the non-C&D solid waste generated by the new commercial, residential, industrial, and recreational activities of Alternative 2 would be greater than for Alternative 1 because of the additional residential population, which would be about 30 percent greater under Alternative 2 than Alternative 1. The non-C&D waste requiring landfilling during the last 10 years of the build-out period is estimated to be 77 tons per day (see Appendix F), which is greater than for Alternative 1.

Accordingly, solid waste requiring landfilling during the first 10 years of the build-out period, which is assumed to be dominated by the C&D waste, would represent a 1-to-3-percent increase over the waste received at the PHL or KCL in 2012 (see Appendix F). The solid waste requiring landfilling during the last 10 years of the build-out period is assumed to be dominated by the non-C&D waste and would represent a 4-to-7-percent increase over the waste received at the PHL or KCL in 2012. Solid waste

generated during the middle 5 years of the build-out period would be no greater than that of the first or last 10-year segments of the 25-year build-out period and would likely be less, as described for Alternative 1. Similar to Alternative 1, the projected closure dates for both PHL and KCL would likely be affected because the 1-to-7-percent increases, although small on a daily basis, would compound when experienced over 10-year periods. PHL and KCL are able to expand their disposal footprints as necessary, as discussed under Alternative 1.

Therefore, under Alternative 2, there would be a minor impact on the environment from small increases in the amount of solid waste requiring disposal in a landfill compared to current conditions. The impacts would not be significant because the C&D waste and non-C&D waste would be generated over long segments of the build-out; a 50 percent diversion rate from landfilling is required by law (and the City of Concord requires C&D waste to be diverted from landfills at a minimum diversion rate of 65%); and the small increases in landfilled waste could be accommodated by the PHL and KCL, which operate below capacity.

Electricity

PG&E would provide electricity for development within the former NWS Concord site. Under Alternative 2 at full build-out, total electricity demand would be projected to be similar to that under Alternative 1. Future electricity demand and the ability of PG&E to accommodate that demand will be addressed through coordination between the City of Concord and PG&E, as discussed further below.

Because there is no existing major electricity distribution infrastructure on the site, additional infrastructure would need to be built in order to accommodate new development. New offsite electrical infrastructure would be also required to connect the development's distribution system to the existing transmission infrastructure, and a new substation would need to be developed within the site area. From the substation, electrical distribution infrastructure would span out to serve the development. Potential locations for a PG&E distribution substation site discussed previously for Alternative 1 would be the same for Alternative 2 (see Figure 4.12-1), as would the associated options for an overhead transmission line.

Ground disturbance would be associated with the construction of necessary infrastructure—overhead transmission lines and a new substation—and the developer(s) and/or PG&E will be required to comply with local and state regulations to minimize disturbance.

In summary, impacts would be similar to those discussed for Alternative 1. Future development at the former NWS Concord under Alternative 2 would also be required to comply with mitigation measures adopted by the city in the MMRP; therefore, there would be no significant, long-term adverse impacts on energy infrastructure or the availability of electricity under Alternative 1.

Natural Gas

Natural gas would continue to be provided by PG&E. It is anticipated that the future annual natural gas demand at full build-out under Alternative 2 would be similar to that under Alternative 1. Although there is sufficient capacity in the adjacent existing gas transmission systems to serve the proposed reuse of the site in a manner consistent with Alternative 2, additional infrastructure would need to be developed in order to distribute the gas to the redeveloped site because no gas distribution system currently exists onsite.

The two potential locations for a new gas regulating station would be the same as those discussed previously under Alternative 1 and illustrated in Figure 4.12-1. Distribution mains would radiate out from the gas regulator station to serve the development (City of Concord 2010). Ground disturbance would be associated with the construction of necessary infrastructure—gas transmission lines and a potential new

gas regulator site—and the developer(s) and/or PG&E will be required to comply with local and state regulations to minimize disturbance.

Impacts under Alternative 2 would be similar to those under Alternative 1. Because future development is required to comply with mitigation measures outlined in the MMRP, there would be no significant, long-term adverse impacts on natural gas infrastructure or the availability of natural gas under Alternative 1.

Telecommunications

Impacts on information technology/communications infrastructure under Alternative 2 would be similar to those discussed previously for Alternative 1. Because development is required to comply with mitigation measures outlined in the MMRP, there would be no significant, long-term adverse impacts on information technology/communications infrastructure under Alternative 2.

4.12.3 No Action Alternative

The No Action Alternative is retention of the former NWS Concord by the U.S. government in caretaker status. Since no development would occur on the property there would be no demand for water, electricity, or natural gas, and wastewater or solid waste would not be routinely generated. Stormwater runoff from the existing 359,000 square feet of impervious surface area would continue to drain into Mt. Diablo Creek and the Holbrook Channel.

4.13 Visual Resources and Aesthetics

This section describes the potential direct and indirect impacts on visual resources and aesthetics resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative.

Disposal and redevelopment of the former NWS Concord will change the current visual condition of the installation to include a variety of urban uses and park and recreational facilities, as well as maintaining existing open spaces. A transitional green buffer of varying distances would be developed around the majority of the site, and a network of green corridors are proposed in strategic locations (ridgelines, between districts/villages) that offer opportunities for view corridors from existing neighborhoods and view points around the City of Concord toward Mount Diablo and the Los Medanos Hills. In addition, redevelopment of the site would maintain open space areas that help minimize view obstruction and maintain the existing visual character of parts of the site, particularly east of Mt. Diablo Creek and south of Bailey Road.

The following presents a discussion of the methodology used to assess potential impacts on visual resources and aesthetics, and potential impacts on the study area, based on KOPs identified in Section 3.13. The study area in which the KOPs were selected comprises a noncontiguous area that includes the former NWS Concord and adjacent areas from which public views of the installation can be seen. This includes adjacent roadways such as SR 4, certain neighborhoods within the City of Concord (including the Sun Terrace and Dana Estates neighborhoods), and the City of Concord's downtown, as presented in Section 3.13. Mount Diablo is a prominent landscape feature in the region, and views of it are also included in the discussion below because the former NWS Concord provides an unobstructed foreground for views of Mt. Diablo from the City of Concord.

Upon completion of the BRAC disposal process under both Alternatives 1 and 2, the former NWS Concord property would be under the jurisdiction of the City of Concord. The use of the land and the development of new buildings or structures on the site would be regulated by the City of Concord, the city's zoning code, and other applicable plans and regulations.

All development would include measures to incorporate visual screening, landscaping, and streetscaping—including street tree and shrub planting—that will appear similar to existing tree cover in the City of Concord and will conform to the city's zoning code, as amended. In addition, the City of Concord's General Plan policies (see Table 4.13-1) would apply to development on the former NWS Concord, and some of these policies would serve to reduce and minimize the visual impact of development on the site through techniques such as clustering development or transferring density from one part of the site to another; incorporating natural creekways within developments; promoting wildlife corridors as a means of maintaining the character of visible hillsides and open space; designing buildings and facilities in parks and open space areas in a context-sensitive manner to complement natural settings; and using open space as a way to delineate the edge of urban development. Measures adopted as part of the Area Plan, including mitigation measures identified in the city's FEIR and City of Concord development review procedures (such as review for consistency with the City of Concord municipal code) were considered in the analysis below.

4.13.1 Methodology

BLM Manual Handbook 8431-1 and Form 8400-4 were used to assess the description of the proposed action and contrast it with the existing scenic quality of the former NWS Concord (Section 3.13.3). This methodology is based on the principle that the degree that development adversely affects the scenic quality of the existing environment is directly related to the amount of visual contrast between basic elements—form, line, color, and texture—for major landscape features and landforms (including water), vegetation, and structures that are introduced. Landscape elements that are dominant in the identified KOPs are also considered within this assessment. Standard guidance and definitions from the BLM methodology are presented in Tables 4.13-1 and 4.13-2.

This analysis is programmatic in nature because specific plans for development of the former NWS Concord have not yet been approved by the City of Concord, and details such as the location, height, mass, and appearance of buildings, and location and nature of greenspace, have not yet been determined.

Table 4.13-1 BLM Guidance for Assessing Contrast

Element	Guidance for Assessing Contrast
Form	Contrast in form results from changes in the shape and mass of landforms or structures. The degree of change depends on how dissimilar the introduced forms are to those continuing to exist in the landscape.
Line	Contrasts in line results from changes in edge types and interruption or introduction of edges, bands, and silhouette lines. New lines may differ in their sub-elements (boldness, complexity, and orientation) from existing lines.
Color	Changes in value and hue tend to create the greatest contrast. Other factors such as chroma, reflectivity, and color temperature, also increase the contrast.
Texture	Noticeable contrast in texture usually stems from differences in the grain, density, and internal contrast. Other factors such as irregularity and directional patterns of texture may affect the rating.

Source: BLM 1986

Table 4.13-2 Degree of Contrast Definitions

Degree of Contrast	Definition
None	The element contrast is not visible or perceived.
Weak	The element contrast can be seen but does not attract attention.
Moderate	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
Strong	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

Source: BLM 1986

4.13.2 Alternative 1

4.13.2.1 Impacts on Scenic Quality of KOPs

KOP 1: Salvio Street and Mt. Diablo Street

From KOP 1 in downtown Concord, some aspects of development that would take place on the former NWS Concord over the 25-year period for build-out of Alternative 1, including Village Neighborhood and Village Center development districts, greenways, and parks, may be visible. Due to shielding from trees and buildings in the near distance, development is not likely to be visible from KOP 1 during spring, summer, and fall when full foliage cover is on trees. If development is in view during these seasons, it may appear to rise slightly above the level of the existing trees in the distant view. During winter conditions (when trees are bare), development may be more visible and may appear to rise slightly above current buildings. The Los Medanos Hills would remain in the distant view.

The existing scenic quality of KOP 1 is defined by the prominent form, line, color, and texture of foreground structures and vegetation; these characteristics would not change under Alternative 1. If development of the former NWS Concord is in view from this KOP, the color and texture of distant views could weakly contrast with existing views because open space and the Los Medanos Hills would be less visible. New sources of lighting on the former NWS Concord would be associated with Alternative 1 and would be visible from this KOP at night, creating a minor change in the existing view. Overall contrast between current conditions and proposed development under Alternative 1 would be none to weak for KOP 1 and would not be discernible to the average viewer.

KOP 2: Concord High School

Under Alternative 1, views from KOP 2 would include the Neighborhood Frame greenway and Village Neighborhood and Village Center development districts. Development under Alternative 1 would be highly visible from this KOP because it would take place in the foreground and would be slightly below eye level. Low-rise development is anticipated to be one to two stories in height and from this KOP is generally not expected to extend higher than the lowest point of the Los Medanos Hills. Therefore, any obstruction of views of Los Medanos Hills and ridgelines would likely be minor.

Development under Alternative 1 would contrast with the existing scenic character of KOP 2. Greenway and park vegetation in the foreground of the view would strongly contrast in form, line, color, and texture with the current open space character of the view. Substantial contrast would be introduced in the foreground, but prominent landforms that occur in the middle and background distance (Los Medanos Hills and ridgelines) would remain unchanged; therefore, the proposed development for the former NWS Concord under Alternative 1 would result in a moderate contrast with the current view of the form, line, and texture of landforms. Development under Alternative 1 would also result in a moderate contrast with the current view of the form and line of structures because houses built under Alternative 1 would be more numerous within the view than current structures. New sources of lighting on the former NWS

Concord would be highly visible from this KOP at night, creating a potentially major change in the existing nighttime view. The overall contrast between current conditions and proposed development under Alternative 1 would be strong for the average viewer.

KOP 3: State Route 4

From KOP 3 on SR 4, views of the former NWS Concord would include the Commercial Flex district, which would be developed in the foreground. The Central and North Concord TOD Neighborhood districts would be visible in the middle ground and in more distant views. Development under Alternative 1 would be highly visible from KOP 3 because it would occur in the foreground and be slightly below eye level. However, views would typically occur over short timeframes from vehicles traveling along SR 4. Development within the foreground view would consist of low-rise commercial buildings (from one to three stories in height) on largely level or gently sloping ground. The Central Neighborhood district is expected to include a combination of mid-rise mixed-use development (from three to four stories in height) and low- to mid-rise residential development. The North Concord TOD Neighborhood district is expected to include a combination of mid-rise mixed-use development (from five to six stories in height) and low to mid-rise residential development (from three to four stories in height). The anticipated heights and density of the proposed development indicate that views of Mount Diablo would be largely if not completely obstructed from this KOP.

The existing scenic quality of KOP 3 is defined by the prominent open space in the foreground, rolling hills in the middle ground and distance, and the form and line of Mount Diablo in the distance; these characteristics would change under Alternative 1. The entire viewshed from this observation point is likely to be altered by the proposed development. Views of foreground, middle, and distant landforms would change substantially because the majority of the landforms within the viewshed would not be visible under Alternative 1. Vegetation is also anticipated to contrast strongly with existing conditions in form, line, color, and texture because the vegetation visible under current conditions would be completely altered under Alternative 1 to include street trees and other landscaped features associated with urban development. Buildings would become the prominent features within the view, creating further strong contrast with the existing view. In addition, new sources of lighting on the former NWS Concord would be visible from this KOP at night, creating a major change in the existing nighttime view. Overall contrast between current conditions and Alternative 1 would be strong.

KOP 4: Bailey Road

Views of the former NWS Concord from the Bailey Road KOP under Alternative 1 would include most of the development districts on the site, which would appear in the middle ground and in distant views. Little to no changes to the views from this KOP of the foothills in the foreground would take place under development of Alternative 1. Over the 25-year build-out period of Alternative 1, the building located in the foreground of this view would likely be demolished, consistent with conservation open space designations in the Area Plan. Ultimately, greenways and parks as well as Village Neighborhood and Village Center districts would be developed in the middle distance, where bunkers are currently visible from this KOP. Distant views toward the northwest of this KOP may include Central Neighborhood, North Concord TOD Neighborhood, and North Concord TOD Core districts. In general, development viewed from this KOP would appear to be similar to the City of Concord (currently in distant views from this KOP) but would extend further east toward the KOP.

Prominent landforms and vegetation, as well as the simple and uniform colors in the foreground of this view, would not change under Alternative 1. In the middle distance, the distinct transition between the appearance of structures and complexity of vegetation on the former NWS Concord and in the City of Concord would be reduced in intensity. Distant views would, to a great extent, change little or remain unchanged. In part because the districts would be distant from this KOP, the contrast or change in the views of the area in which the Central Neighborhood, North Concord TOD Neighborhood, and North

Concord TOD Core districts would be developed would be weak or minor. New sources of lighting on the former NWS Concord would be visible from this KOP at night, creating a minor change in the existing nighttime view. Overall contrast between current conditions and proposed development under Alternative 1 would be moderately weak for KOP 4.

KOP 5: Panoramic Drive

From KOP 5 on Panoramic Drive in the Sun Terrace neighborhood, views of the former NWS Concord would include the Central Greenway, North Concord TOD Neighborhood, and North Concord TOD Core districts. Development of Alternative 1 would be highly visible because it would take place in the middle ground, is at and above eye level, and would take place over a prolonged period of time. The Central greenway, a vegetated linear park that would contain active gathering spaces and sports fields, would be developed in the middle ground to provide a connection between the North Concord/Martinez BART Station, TOD districts, village neighborhoods, and the adjoining existing communities. The North Concord TOD Core is anticipated to include a combination of mid-rise mixed-use office, retail, and multi-unit housing development (from five to seven stories in height). The scale of buildings would step down adjacent to the Sun Terrace neighborhood, in the vicinity of KOP 5. The North Concord TOD neighborhoods are anticipated to be a combination of mid-rise mixed-use development (from five to six stories in height) and low- to mid-rise residential development (from three to four stories in height). Due to the nature and the heights of the proposed development, views of the Los Medanos Hills and ridgelines may be seen above some of the rooflines, in between buildings at roadways, and above and in between vegetative plantings in the Central greenway.

The view of the roadway and the prominent vegetation in the foreground of this view would not change under Alternative 1. In the middle distance, the form and line of structures that would be built would strongly contrast with the existing view. The color and texture of structures that would be built under Alternative 1, along with the form and line of street trees and vegetative plantings that would be part of the Central greenway, would also result in a modified view from this vantage point and in moderate contrast. The heights of the buildings in the North Concord TOD Core district in the middle ground would be lower than five to seven stories in order to provide a transition to the Sun Terrace neighborhood. However, taller buildings in the distance may modify or obscure views of the Los Medanos Hills and ridgelines. While the rolling terrain of the hills in the distance may be within partial view, the view of gentle slopes and rolling hills in the middle distance would be altered under Alternative 1, resulting in a moderate contrast in the form and line of landforms. In addition, new sources of lighting on the former NWS Concord would be highly visible from this KOP at night, creating a major change in the existing nighttime view. Overall contrast between current conditions and Alternative 1 would be moderate to strong for KOP 5.

KOP 6: Beechwood Drive

From KOP 6, views of development under Alternative 1 would include the Neighborhood Frame greenway and Village Neighborhood and Village Center districts. Development under Alternative 1 would be highly visible because it would occur in the foreground and be at and above eye level, and views of development would occur over a prolonged period of time. The Neighborhood Frame greenway, a vegetated linear park and open space, would be developed in the foreground to provide a transition between the adjacent existing neighborhood and the Village Neighborhood development districts. Low-rise development of the Village Neighborhood and Village Center districts are anticipated to be one to two stories in height; from this KOP, these districts are not expected to extend higher than the base of the Los Medanos Hills. Therefore, views of the Los Medanos Hills and ridgelines would not be obstructed. The Los Medanos Hills would be seen above building rooflines, within roadway viewsheds, and above and in between vegetative plantings in the Neighborhood Frame greenway.

Development under Alternative 1 would contrast with the existing scenic character of KOP 6. Greenway vegetation in the foreground of the view would strongly contrast in form, line, color, and texture with the current character of the view. With regard to landform, there would be substantial contrast in the foreground but prominent landforms that occur in the background distance (the Los Medanos Hills and ridgelines) would remain, for the most part, unchanged in appearance. Therefore, development of Alternative 1 is anticipated to result in a moderate contrast in line and form of landform. Development of Alternative 1 would result in a moderate contrast in form, line, color, and texture of structures because houses would be developed in the foreground and middle ground. New sources of lighting on the former NWS Concord, however, would result in a major contrast with existing conditions; lighting associated with the development of Alternative 1 would be highly visible from this KOP at night, creating a substantial change in the existing nighttime view. Overall contrast between current conditions and development Alternative 1 would be moderate to strong.

4.13.2.2 Impacts on Views of the Los Medanos Hills, Mount Diablo, and Open Space

Views of the Los Medanos Hills would remain the same or only slightly altered from KOPs 1 (Downtown Concord), 2 (Concord High School), 4 (Bailey Road), and 6 (Beechwood Drive). Therefore, Alternative 1 would not substantially degrade views of the Los Medanos Hills from these KOPs. Views of open space would remain the same or only somewhat altered at KOP 4 (Bailey Road) under Alternative 1. Changes in views of open space would be moderate at KOP 2 (Concord High School) and KOP 6 (Beechwood Drive). The lower foothills and open space surrounding the Los Medanos Hills cannot be seen from KOP 1 (Downtown Concord), and, therefore, no impact would be created from this vantage point.

The proposed action would impact the views of the Los Medanos Hills or Mount Diablo and open space from KOP 3 (SR 4) and KOP 5 (Panoramic Drive). The existing scenic quality of KOP 3 is defined by the prominent open space in the foreground and the form and line of Mount Diablo in the distance. The majority of the landforms within the viewshed, including Mount Diablo, may not be visible after the proposed development under Alternative 1. Development of the Commercial Flex district would be highly visible because it would occur in the foreground and would be slightly below eye level. The anticipated heights and density of the proposed development would obstruct views of Mount Diablo from this observation point. Overall contrast between current conditions and Alternative 1 would be strong. Views would occur in short timeframes from vehicles traveling along SR 4; however, due to the high degree of alteration of the view from KOP 3 and the overall strong contrast between current conditions and Alternative 1, the view from KOP 3 on SR 4 would be substantially changed.

The view from KOP 5 of open space and rolling hills in the foreground and middle ground would be obstructed by the more intensively developed districts (North Concord TOD Neighborhood and North Concord TOD Core) within the viewshed. The heights of the buildings in the North Concord TOD Core district that would be located in the middle ground of KOP 5 would be lower than five to seven stories in order to provide a visual transition to the Sun Terrace neighborhood. However, taller buildings seen in the distance from KOP 5 may partially modify or obscure views of the Los Medanos Hills and ridgelines, and the change from existing views would be substantial.

In accordance with mitigation measures in the Area Plan, future developers of the former NWS Concord will be required to incorporate design BMPs into site development plans that would minimize impacts on views from SR 4 (KOP 3) and the Sun Terrace neighborhood (KOP 5) (City of Concord 2010). Through the implementation of design BMPs, potential impacts would be mitigated, and views from KOP 3 and KOP 5 would be significantly altered but not substantially degraded, and no significant long-term adverse impacts would result.

Development of Alternative 1 would result in new lighting from recreation facilities as well as residential, commercial, and other uses. Views from all KOPs could be affected by new sources of light under this

alternative, and development under Alternative 1 could result in moderate to substantial impacts on adjacent nighttime views from KOPs 2 (Concord High School), 3 (SR 4), 5 (Panoramic Drive), and 6 (Beechwood Drive). In accordance with the Area Plan, future developers of the former NWS Concord will be required to incorporate light-reducing and light-controlling measures into site development plans. With the implementation of these measures, adverse impacts would not be significant.

4.13.3 Alternative 2

The full implementation of Alternative 2 would differ from Alternative 1 in that Alternative 2 would include residential development areas that would have a slightly smaller footprint but greater density, and buildings would generally be taller. For example, the Area Plan includes descriptions of building heights in the TOD and Central Neighborhood districts as ranging from three to six stories; in general, the implementation of Alternative 2 would result in building heights at the higher end of this range.

However, the impact of the implementation of Alternative 2 on visual resources and aesthetics would be similar to that described for Alternative 1 at the programmatic level analyzed. With the implementation of measures in the Area Plan, adverse impacts would not be significant.

4.13.4 No Action Alternative

The No Action Alternative would include continued Navy ownership of NWS Concord in caretaker status. Therefore, implementation of the No Action Alternative would not result in an increase in contrast in form, line, color, or texture as viewed from the KOPs and is not assessed in detail below. The No Action Alternative would not result in a significant impact because views of Mount Diablo and the Los Medanos Hills and open space surrounding them, as well as views from SR 4, would not be substantially degraded.

4.14 Water Resources

This section summarizes the potential environmental impacts on water resources resulting from implementation of Alternative 1, Alternative 2, and the No Action Alternative at the former NWS Concord. It includes a discussion of impacts on surface water, water quality, groundwater, and floodplains and describes proposed mitigation measures.

4.14.1 Alternative 1

4.14.1.1 Surface Water

Surface water features at the former NWS Concord would be affected directly by the proposed new construction and indirectly by impacts on surface water quality. The following provides a discussion of both construction impacts and operational impacts following build-out under Alternative 1.

The primary surface water feature within the former NWS Concord is Mt. Diablo Creek. Other surface water features include drainages, canals, and ponds. Implementation of Alternative 1 would have both beneficial and negative impacts on surface water. The primary beneficial impact would be the development of the Central Greenway along Mt. Diablo Creek. The designation and preservation of this minimum 300-foot-wide riparian corridor along Mt. Diablo Creek would facilitate the protection of the stream's water quality as well as moderation of flood flows. It would also facilitate the improvement of in-stream habitat through the provision of shading, moderation of temperature, and input of leaf litter and other natural materials for foraging. These improvements would improve benthic macroinvertebrate assemblages in the creek, which were indicated as being reflective of poor conditions in the Mt. Diablo Creek watershed (refer to Section 3.14.5.1 for further discussion).

Negative impacts on surface water features would occur during and following construction of the Area Plan. Construction activities at the former NWS Concord would affect surface waters from demolition, site grading and clearing activities, construction of buildings and associated infrastructure, and generation of runoff from new impervious surfaces. Implementation of Alternative 1 would disturb approximately 2,467 acres of land, based on the assumption that 5 percent of the Conservation Open Space would be disturbed during construction and all land within the other development districts would be disturbed during construction. Construction activities would result in removal of vegetation and disturbance of soils, increasing the potential for erosion and sedimentation. Drainage patterns also could be altered, and impacts on the beds and banks of streams would occur where crossings would be implemented. Surface waters would also be directly impacted by filling as a result of the development footprint. (Note: riparian area impacts are discussed in detail in Section 4.5, Biological Resources.) Development would result in 1,442 acres of impervious surface, which would increase the potential for stormwater runoff and impacts on water quality. Each of these impact types is discussed in detail in the subsections below.

Site Disturbance, Erosion, and Sedimentation

Implementation of Alternative 1 would involve clearing and grading activities in approximately 2,467 acres of land. This would include disturbance of Mt. Diablo Creek and its riparian corridor during construction activities. Riparian vegetation functions not only in stabilizing stream banks but also in capturing and filtering rainwater and runoff. Removal of riparian vegetation during site development activities (i.e., clearing and grading) can increase erosion and sedimentation rates.

Through the development and implementation of a SWPPP to control erosion in accordance with the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity, as required by law, disturbance can be minimized. The SWPPP will establish requirements that may include developing the site in phases, so as to limit areas of disturbance and allow existing vegetated areas to remain undisturbed until that portion of the site is ready for development, and collecting runoff in vegetated swales or detention areas. Additionally, the stream and its riparian corridor would be restored following completion of construction activities, including restoring the stream banks and channel to pre-construction contours, and re-establishing riparian vegetation. Additional protections provided through the site-wide Section 404 Individual Permit issued by the USACE or those permits attained by future developers, would ensure that adverse impacts associated with site disturbance and sedimentation would not have significant impacts on the nation's waters (see Filling of Streams subsection for additional discussion).

Additionally, the developer must adhere to BMPs and standards stipulated in Section 86-39 of the city's Stormwater Management and Discharge Control Ordinance, which include compliance with the following:

- *California Stormwater Best Management Practices Handbook for Construction Activities and New Development and Redevelopment*
- ABAG Manual of Standards for Erosion and Sediment Control Measures
- City of Concord Grading and Erosion Control Ordinance (Chapter 86, Article III, Section 86-71)

In summary, through the implementation of the project-specific SWPPPs and BMPs, as well as any state or federal permit conditions, site disturbance can be minimized, and the associated impacts on surface waters can be minimized.

Drainage Patterns and Streambed and Bank Disturbance

Based on the location of the tributaries that drain the Los Medanos Hills on the eastern portion of the site and within the easternmost portion of the large Conservation Open Space development district, these channels would not be disturbed during construction activities (see Figure 4.14-1). This is due to their distance away from any development district that would require active construction and disturbance (i.e., the Commercial Flex development district and the Greenways and Citywide Parks district that border the Conservation Open Space district on the west), coupled with their location within the eastern portion of the site to be designated as Conservation Open Space. Similarly, the area surrounding Rattlesnake Creek in the southeastern portion of the site is currently undeveloped and would be designated as a Conservation Open Space district in the future. Therefore, the drainage patterns associated with the eastern and southeastern portions of the site would not be expected to be altered. Cistern Pond would also remained undisturbed because it is located in the eastern portion of the site designated as Conservation Open Space.

However, the drainage patterns associated with the remainder of the site have the potential to be altered with the proposed Alternative 1 development footprint, as the majority of the development would occur on the western and northwestern portions of the former installation. Temporary disturbance to the drainage patterns of the western half of the site could occur during construction, including periods of disturbance to Mt. Diablo Creek during culvert installation to facilitate road crossings and the implementation of stream restoration activities. Removal of riparian vegetation during site development activities (i.e., clearing and grading) could increase the amount of runoff flowing into the creek, thereby increasing flows that, in turn, could result in erosion and downcutting of the channel and destabilization of the stream. However, through the development and implementation of a SWPPP to control erosion in accordance with the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity, as required by law, disturbance can be minimized. Additionally, the stream and its riparian corridor would be restored following completion of construction activities, including restoring the stream banks and channel to pre-construction contours and re-establishing riparian vegetation. These measures would help to mitigate any temporary impacts on drainage patterns, specifically those associated with Mt. Diablo Creek.

Culvert placements can also contribute to the alteration of existing drainage patterns and stream flow if they are not designed appropriately. Culverts can interrupt the natural drainage characteristics of a stream and may impede flow through poor culvert placement (i.e., not in line with the centerline of the channel), by becoming plugged with debris and by not being sized correctly for anticipated flows. Mt. Diablo Creek within the former NWS Concord contains 17 existing culverts in its channel. These culverts are largely corrugated steel and reinforced box culverts that were constructed primarily to pass large flood flows (H.T. Harvey and Associates 2012).

Under Alternative 1, development is proposed on both sides of Mt. Diablo Creek, thereby creating the need for stream crossings to allow pedestrians, vehicles, or utilities to cross the creek. Alternative 1 involves the removal of 14 of the existing culverts, and three bridges and one culvert would be retained (USACE 2016). In addition, nine new bridges would be constructed and all new bridges would span the existing active channel. This results in a reduction of 5 crossings from existing conditions, as all new bridges would span the channel, so all would be an improvement over existing conditions.

Under Alternative 1, the linear footage of streams with culverts would be reduced. This would be a beneficial impact on Mt. Diablo Creek generally, improving its ability to flow, as well as a specific beneficial impact on the in-water habitat of the creek, namely by a return to a natural substrate wherever culverts are removed (see Section 4.5 for an additional discussion on habitat impacts). However, where new bridges are installed, even though the bridges will span the channel, bridge abutments could redirect flows, resulting in future alterations to the natural drainage course and the existing substrate being permanently replaced with an artificial hard surface. A streambed alteration agreement will be required to

be obtained from the CDFW for any activity that would result in an adverse impact on streams at the former NWS Concord.

Culvert design should be done by the developer(s) according to established guidance, such as the FHA's *Hydraulic Design of Highway Culverts* (FHA 2001). In addition, the sitewide Section 404 Individual Permit issued by the USACE would include conditions necessary to ensure that any adverse impacts associated with culvert installation would not be significant (see Filling of Streams subsection for additional discussion). The Area Plan includes measures specifying that any new culvert crossing would be designed to span the channel or to allow a low-flow channel to be maintained, as is specified in the USACE Public Notice (USACE 2016).

In summary, through the implementation of the project-specific SWPPP and BMPs, coupled with appropriate culvert design, the impacts related to altered drainage patterns and the construction of new crossings would not be significant, and no additional mitigation is proposed.

Filling of Streams

In addition to surface water impacts caused by stream crossings, portions of several streams would be filled because of the proposed development footprint, resulting in a total of fill of 2.43 acres of other waters (Table 4.14-1). Approximately 1.4 acres of fill would occur within the development districts, primarily in a portion of Willow Pass Creek in the Commercial Flex development district and in an unnamed tributary to Mt. Diablo Creek, which drains the east side of the Central Neighborhoods development district. The restoration of Mt. Diablo Creek and conservation enhancements for endangered species would result in fill impacts on 1.01 acres of other waters, but no net loss to Mt. Diablo Creek is expected (Table 4.14-1).

Table 4.14-1 Summary of Other Waters Impacts under Alternative 1

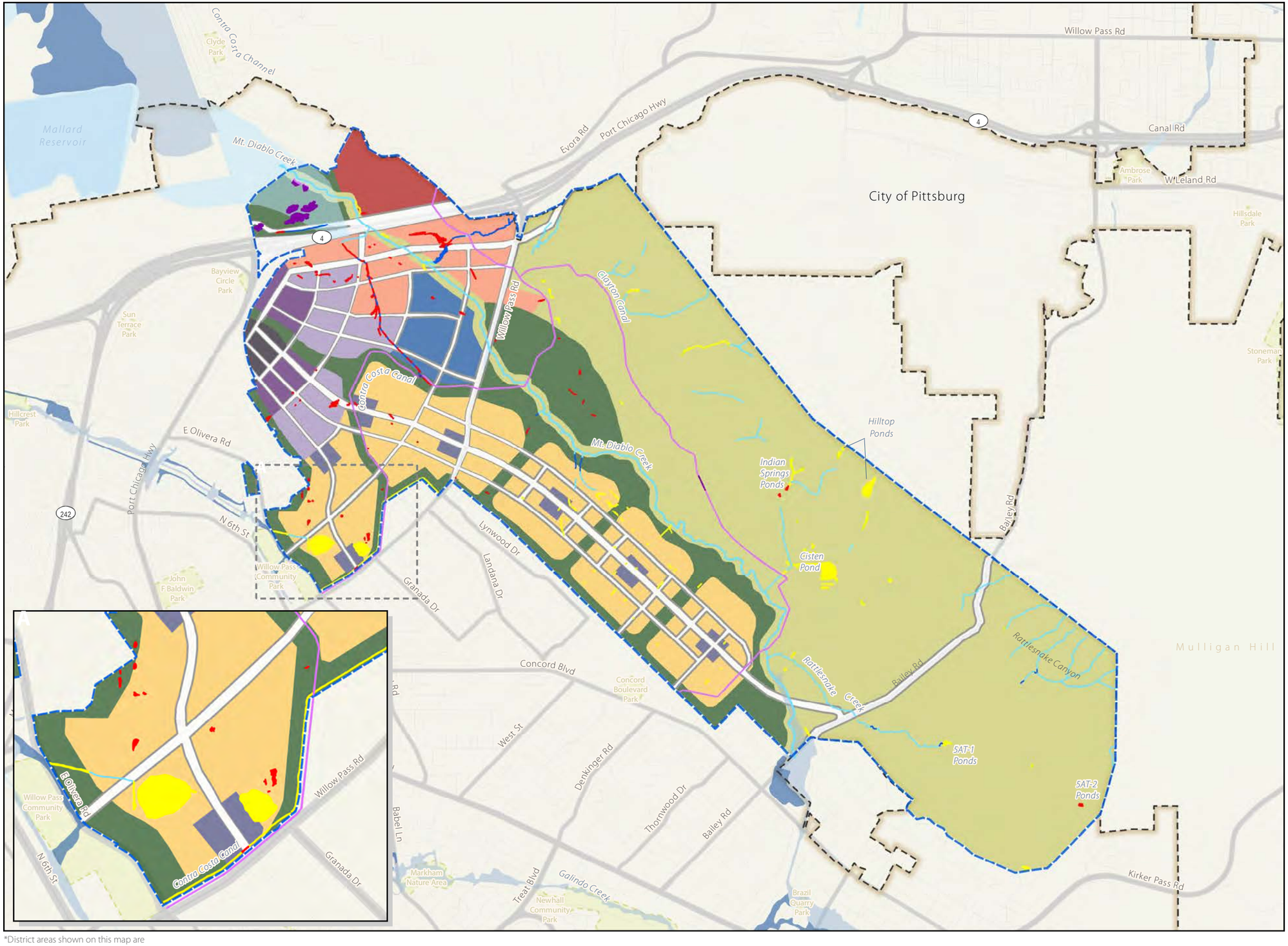
Source of Impact	Other Waters[1]	
	Total Fill (acres)	Net Loss (acres)
Area Plan Economic Development	1.42	1.42
Mt. Diablo Creek Restoration	1.00	0[2]
Conservation Enhancements	0.01	0.01
Totals	**2.43**	**1.43**

[1] Other water acreages originated from the USACE Public Notice: 2010-00190S (Concord Naval Weapon Station Redevelopment) (USACE 2016).

[2] All fill from Mt. Diablo Creek restoration will result in enhancement of instream conditions, and there will be no net loss of jurisdictional waters resulting from this fill.

Permanent impacts on surface waters resulting from filling would be mitigated through adherence to the USACE- and EPA-issued regulations governing compensatory mitigation for authorized impacts on streams; these are codified in 40 CFR Part 230 as the *Final Rule for Compensatory Mitigation for Losses of Aquatic Resources*. Specific requirements for future development would be determined in coordination with the USACE and RWQCB. On November 6, 2012, the City of Concord submitted an Individual Permit application under Section 404 of the Clean Water Act (sitewide Section 404 Individual Permit) to the USACE with the goal of securing a site-wide permit for future development activities; supplemental information was provided to the USACE on December 10, 2015. This submittal included a Conceptual Habitat Mitigation Plan for Wetland, Aquatic, and Riparian Habitats. The USACE issued a Public Notice for this project on June 14, 2016 (USACE 2016); the comment period ended on July 14, 2016, and at the time of publication of this FEIS, the permit was still under review by the USACE. If the city is able to secure a site-wide permit from the USACE that is certified by the RWQCB, the Section 404 Individual Permit would include conditions to

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\Surface_Waters_Alternative_1_2017_04_05.mxd



*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

Figure 4.14-1

Alternative 1 Redevelopment and Potential Surface Water Impacts

Former NWS Concord

Concord, California

Legend

- Major Highway
- Local Road
- Former NWS Concord
- City Limits
- Waterbody
- Local Park
- Roadways

- Impacted Non-Jurisdictional Waters
- Non-Impacted Non-Jurisdictional Waters
- Impacted Other Waters
- Non-Impacted Other Waters
- Impacted Wetlands
- Non-Impacted Wetlands

Flood Zone

- A
- AE
- AO

Zone A- 100-year floodplain in which no base flood elevations or depths exist.
Zone AE- 100-year floodplain in which base flood elevation exists.
Zone AO- Subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow).

*Alternative 1 Types of Districts

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways and Citywide Parks
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

N

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; H. T. Harvey & Associates, 2009. Federal Emergency Management Agency, 2013.

This page intentionally left blank.

adequately avoid, minimize, or mitigate for any adverse impacts on Waters of the U.S (see Section 4.14.1.2 for additional discussion regarding proposed mitigation activities). If the city does not secure site-wide permits, future property owners or developers would be responsible for identifying the need for and securing any necessary permits to fill waters of the U.S. In addition, as the California SWRCB and its RWQBs have jurisdiction over depositing fill in "State Only Waters" and issues waste discharge requirements for these projects. The city or future property owners or developers would have to comply with any future conditions set forth by the California RWQB in the Section 401 Water Quality Certification for the Area Plan. Therefore, Alternative 1 would result in a potentially significant impact on surface waters, but mitigation would reduce this impact to not significant. A detailed discussion of the proposed mitigation activities is provided in Section 4.14.1.2.

Increasing Impervious Surfaces

Existing site drainage at the former NWS Concord occurs primarily as sheet flow; therefore, with the addition of new sources of impervious surface associated with development, the quantity of sheet flow would increase in the absence of appropriate stormwater controls. Impervious surface can be defined as an impenetrable surface, primarily constructed surfaces, such as asphalt and concrete. Impervious surfaces repel water and prevent it from infiltrating soils. Thus, when stormwater washes over impervious surfaces, it is not absorbed and causes an increase in the amount of stormwater runoff generated. These increased runoff rates can lead to higher peak stream discharges within Mt. Diablo Creek and also within the Holbrook Channel. Under Alternative 1, the total impervious surface area would be approximately 1,442 acres, compared to the approximately 359 acres that currently exist. Because of the increase in impervious surface, concerns exist regarding adverse impacts on the EBMUD aqueduct, located west-northwest of the former NWS Concord, if post-development flows are not properly managed.

Stormwater discharges would be managed in accordance with the City of Concord's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31). Under this ordinance, developers would be required to prepare a stormwater control plan that meets the criteria in the most recent version of the CCCWP C.3 Guidebook. C.3 is a provision in the joint municipal NPDES permit[36] that requires appropriate source control, site design, and stormwater treatment measures in new development projects to address both pollutant discharges and to prevent increases in runoff flows (CCCWP 2012). In summary, the C.3 provisions require that certain new developments accomplish the following (CCCWP 2012):

- Design the site to minimize imperviousness; detain runoff; and infiltrate, reuse, or evapotranspirate runoff, where feasible;
- Cover or control sources of stormwater pollutants;
- Treat runoff prior to discharge from the site;
- Ensure runoff does not exceed pre-project peaks and durations; and
- Maintain treatment and flow-control facilities.

Additionally, the developer must adhere to BMPs and standards stipulated in Section 86-39 of the Stormwater Management and Discharge Control Ordinance. The information regarding the storm drainage system would be required as part of any development application.

[36] The joint municipal NPDES permit for stormwater discharges is coordinated by the CCCWP, which consists of the City of Concord, the CCCFC&WCD, Contra Costa County, and eighteen other Contra Costa County cities.

The joint municipal NPDES permit also requires that a Low Impact Development (LID) approach be employed. LID techniques include a variety of BMPs that maintain or restore predevelopment hydrology and reduce pollutant loading of stormwater. As discussed in Section 4.12.2.2, LID design strategies include preserving natural drainage features, minimizing impervious surface, using bioretention facilities (i.e., vegetated depressions that collect runoff and facilitate infiltration) and permeable pavement, and dispersal of runoff to pervious areas.

Increased levels of runoff can exacerbate flood flows during wet weather by increasing base flows in onsite drainage features (i.e., streams and canals). The *Conceptual Plan for Restoration and Flood Management* (ESA PWA 2011) was commissioned by the City of Concord to support the reuse plan. It discusses potential projects or design concepts to accommodate both existing flood flows and flood flows attributable to redevelopment as described in the reuse plan. These concepts are focused on appropriately managing flood hazards while restoring existing aquatic, riparian, and wetland habitats. These projects would help to manage and direct increased flows caused by development. The conceptual plan was based on an understanding of the current and anticipated future hydrologic and geomorphic conditions in the watershed and within the former NWS Concord, and it resulted in the development of a conceptual design for Mt. Diablo Creek. The conceptual plan calls for the design of low-flow channels connected to a large floodplain area for additional flood storage; selective grading to reduce high, steep banks; and revegetation of the banks of Mt. Diablo Creek (ESA PWA 2011).

Construction of these flood-control and stream-restoration concepts would temporarily disturb Mt. Diablo Creek. These temporary physical disturbances cannot be avoided, but disturbance to the substrate would be minimized through proper construction and installation techniques. Additionally, as indicated below under Section 4.4.2.4, Water Quality, BMPs would be used to minimize erosion, sedimentation, and turbidity, all of which can adversely affect stream habitat.

In addition to the stream restoration concept designs discussed above (i.e., low-flow channels connected to floodplain areas, selective grading, and bank revegetation), the *Conceptual Plan for Restoration and Flood Management* (ESA PWA 2011) also includes a consideration of detention facilities that would be needed to detain site runoff and creek flows so that offsite flood flows would not be increased as a result of redevelopment of the former NWS Concord. The onsite flood detention would work in concert with the channel restoration, which has the potential to increase flood flows that would be delivered downstream of the project site with redevelopment (ESA PWA 2011). Thus, flood hazards would be managed through a combination of improved flow conveyance with channel restoration and the design and installation of detention facilities to divert and detain creek flows onsite.

The detention concept plan was based on hydrologic modeling that compared runoff rates under existing conditions as well as future conditions and incorporated proposed land uses. The concept plan for detention indicates that in areas that drain toward the Holbrook Channel, flood management would consist of onsite detention before flows are released to storm drainage facilities. Small detention basins would be distributed throughout the former NWS Concord to detain runoff from developed areas. This detainment of flows would offset increases in peak flows caused by development (ESA PWA 2011). Larger, centralized detention basins would be utilized in the Mt. Diablo Creek drainage area (78 percent of the site), as well as in the Holbrook Channel drainage area, to help manage flood flows for the overall project area. Centralized detention facilities were considered for the open space areas of the site. One such potential location is on the east side of Mt. Diablo Creek, opposite the former Bunker City, and would be approximately 40 acres in size (ESA PWA 2011).

Following the development of the conceptual restoration plans and detention concept elements outlined above, modeling was completed of both existing and proposed conditions, with redevelopment. The model was used to simulate flow conditions within Mt. Diablo Creek, taking into account the proposed

conceptual designs above as well as the 40-acre detention basin. Two flood events were modeled: 10-year and 100-year events. Model results indicated that the conceptual design elements proposed for Mt. Diablo Creek would reduce the water surface elevation for both flood events when compared to existing conditions and would provide enough capacity to contain the 100-year flood event (ESA PWA 2011). Therefore, the model illustrated that sufficient capacity and storage are provided as a result of the conceptual design elements coupled with the 40-acre detention basin (ESA PWA 2011).

The modeling was also used to assess whether the post-development flows would impact the EBMUD aqueduct. EBMUD owns and operates an aqueduct and associated right-of-way (ROW) located west-northwest of the former NWS Concord. The aqueduct runs parallel to State Highway 242, in a northerly direction, and crosses under SR 4, continuing north along the Mallard Reservoir before turning east and running parallel to the Port Chicago Highway (EBMUD 2003). Mt. Diablo Creek crosses the aqueduct north of the Mallard Reservoir. Therefore, EBMUD expressed concerns regarding the potential for increased flows in Mt. Diablo Creek attributable to the increase in impervious surface to adversely impact the aqueduct and other EBMUD infrastructure if post-development flows from the former NWS Concord are not managed appropriately. However, as discussed above, modeling completed of both existing conditions and proposed conditions, with redevelopment and inclusive of the conceptual plans and detention concepts outlined in the *Conceptual Plan for Restoration and Flood Management* (ESA PWA 2011), indicated that for the portion of Mt. Diablo Creek that is closest to the aqueduct, the conceptual design elements proposed would reduce the water surface elevation by approximately 4 feet on average for both flood events. Additionally, the modeled results indicated that Mt. Diablo Creek would have sufficient capacity to contain the 100-year flood event (ESA PWA 2011). The proposed 40-acre detention basin would also contribute to a reduction of overall stream water surface elevations. These measures, coupled with adherence to the C.3 provisions of the joint municipal NPDES permit, would mitigate any potential operational impacts on increased flood flows in Mt. Diablo Creek, thereby minimizing the potential for any adverse impacts on the EBMUD infrastructure.

In summary, the concepts described above would serve to increase the conveyance capacity of Mt. Diablo Creek while also providing other benefits, such as habitat restoration. These measures coupled with adherence to the city's Stormwater Management and Discharge Control Ordinance and C.3 provisions of the joint municipal NPDES permit would mitigate potential operational impacts on drainage patterns and increased flood flows. Therefore, impacts on surface water would not be significant.

4.14.1.2 Wetlands

The implementation of Alternative 1 would result in potential impacts on wetland habitat from the direct placement of fill in wetlands and the alteration of hydrology. Based on the USACE Public Notice (USACE 2016), which was published on June 14, 2016, the CRP Area Plan would result in the fill of 4.50 acres of wetlands (see Table 4.14-2). This would result from the placement of permanent fill within 4.23 acres of wetlands within the development districts; approximately 2 acres of this fill would occur within the wetlands in the TOD and Central Neighborhoods development districts, as well as within the Commercial Flex district, on the west side of Mt. Diablo Creek. The remaining fill of 2 acres of wetlands is located primarily within the Commercial Flex development district on the east side of Mt. Diablo Creek within the vicinity of Willow Pass Creek. The conservation enhancements for endangered species would also result in an additional 0.27 acres of wetland impacts related to the discharge of fill, but no net loss of wetlands is expected. This would result in a permanent loss of 4.23 acres of wetlands. As described in the USACE Public Notice for the Concord NWS Individual Permit (USACE 2016), the city has avoided impacts to the largest jurisdictional wetlands on the site (two seasonal wetland features totaling approximately 8-acres near the old airfield and an approximate one acre vegetated ditch, the Holbrook Canal).

Table 4.14-2 Summary of Wetland Impacts under Alternative 1[1]

Source of Impact	Wetlands[1]	
	Total Fill (acres)	Net Loss (acres)
Area Plan Economic Development	4.23	4.23
Conservation Area Easements	0.27	0[2]
Totals	**4.50**	**4.23[3]**

[1] Wetland acreages originated from the USACE Public Notice: 2010-00190S (Concord Naval Weapon Station Redevelopment) (USACE 2016). Non-jurisdictional wetlands are associated with golf course ponds and canals and will likely be avoided.

[2] The 0.27 acre of wetland fill from conservation area enhancements will not result in a loss of jurisdictional waters. In addition, the conservation action of creating additional amphibian breeding ponds will create 0.59 acre of new wetlands.

[3] This 4.23 acre total does not account for the 0.59 acre net increase in wetland acreage from the amphibian pond creation, which would reduce the net loss of wetlands to 3.64 acres.

The majority of wetlands that would be affected by Alternative 1 are located in historically and currently grazed rangeland. Such moderate levels of livestock grazing have resulted in a degradation of the functions and values of these wetlands at the former NWS Concord to levels below their full potential. However, the onsite wetlands do serve ecological functions as foraging habitat and watering areas. Any loss of wetland function would be addressed through the Section 404/401 permitting process and compensatory mitigation as necessary. In attempting to minimize impacts on wetlands, the city avoided development in the largest wetland complexes on site; two seasonal wetland features near the old airfield and the majority of the Holbrook Drainage Canal (see Figure 4.14-1).

Section 404 of the CWA authorizes the USACE to issue permits regulating the discharge of dredged or fill materials into waters of the U.S., including wetlands. The USACE and EPA issued regulations governing compensatory mitigation for authorized impacts on wetlands; these are codified in 40 CFR 230 as the *Final Rule for Compensatory Mitigation for Losses of Aquatic Resources*. Compensation requirements typically vary based on the impacted wetland communities. As discussed in Section 4.11.1.1, specific requirements for redevelopment within these wetlands would be determined in coordination with the USACE as part of the City of Concord's site-wide Section 404 Individual Permit for the Concord Area Plan. The site-wide Section 404 Individual Permit approach would facilitate a coordinated approach to redevelopment, permitting, and mitigation. If the City of Concord does not secure a site-wide Section 404 Individual Permit, future property owners or developers would be responsible for identifying the need for and securing any necessary permits to fill waters of the U.S. In addition, the California SWRCB and its RWQCB have jurisdiction over depositing fill in "State Only Waters" and issues waste discharge requirements for these projects. The city or future property owners or developers would have to comply with any additional conditions set forth by the California RWQB in the Section 401 Water Quality Certification for the Area Plan, including the protection of any state only waters.

According to the current USACE Public Notice (USACE 2016), development-related impacts would be mitigated through the creation of new wetland areas on-site (see Figure 4.14-1). The city has proposed to create up to 10 acres of new wetland area downstream near a spring in the old airfield area. In addition, approximately 0.59 acres of new wetland would be created in association with the expansion and enhancement of existing California tiger salamander breeding ponds, per conservation measures presented in the BO (USACE 2016). The USACE issued a Public Notice for this project on June 14, 2016 (USACE 2016); the comment period ended on July 14, 2016, and at the time of publication of this FEIS, the permit and the ultimate plan for compensatory mitigation was still under review by the USACE. A final mitigation would need to be submitted to and approved by the USACE prior to issuance of a USACE permit.

As per federal guidance, measures in the Area Plan, and City of Concord policies, wetland impacts will be avoided to the maximum extent practicable during final design. Under the Section 404(b)(1) guidelines, the USACE will require the City of Concord's site-wide Section 404 Individual Permit application or if the city does not secure a site-wide permit will require future landowners' or developer's permit applications to demonstrate avoidance of wetland filling to the extent practicable and to provide mitigation for all unavoidable fill of wetlands or other waters of the U.S. pursuant to the 2008 Compensatory Mitigation Rule (33 CFR 325&342, 40 CFR 230). Additionally, prior to construction, a SWPPP will be prepared that will include appropriate BMPs to minimize impacts on wetlands from erosion and sedimentation in all areas of construction. Therefore, Alternative 1 would result in a potentially significant impact on wetlands, but mitigation would reduce this impact to not significant.

4.14.1.3 Groundwater

Groundwater would not be used for any construction activities, such as dust control or watering of vegetated erosion-control features. Additionally, no groundwater wells would be developed as part of Alternative 1, and no existing wells (i.e., those used to water livestock and to irrigate the Concord Municipal Golf Course) would be used for water supplies.

As indicated above, groundwater in the low-lying valley portions of the former NWS Concord is found at depths of 30 to 50 feet under semi-confined to confined conditions. In other areas, such as at IRP Site 13 (Burn Area) and Site 22, which are within low-lying flat areas, groundwater has been encountered at depths of about 20 to 25 feet bgs under semi-confined to confined conditions. Depending upon the depths of foundations needed, excavation could encounter groundwater; however, due to the semi-confined and confined conditions in which groundwater is present, this is not likely. However, if it does occur, dewatering and subsequent discharges would be done in accordance with applicable permits and conditions stipulated by the San Francisco Bay Regional Water Quality Control Board. Construction dewatering, if necessary, would be short-term in nature and would have an associated minor and short-term impact on the underlying groundwater.

Because a large portion of the former NWS Concord is designated as Conservation Open Space, much of the existing open space would remain undeveloped, and the existing natural, pervious surfaces would allow for continued infiltration of surface water and contribution to groundwater recharge where the underlying groundwater is present in semi-confined conditions.

Groundwater would not be used as a water supply source following completion of construction activities; therefore, groundwater supplies would not be depleted by the proposed land uses under the Area Plan. Implementation of Alternative 1 would result in an increase in impervious surface from the 359 acres that currently exist to approximately 1,442 acres. By increasing the imperviousness of the project site, there would be less infiltration of rainfall, limiting the potential for groundwater recharge. However, as discussed previously, the groundwater underlying the former NWS Concord is present in semi-confined to confined conditions, approximately 30 to 50 feet bgs. Semi-confined aquifers are those that are partially confined by soil layers with low permeability, through which recharge can occur but would do so more slowly and with less certainty. Confined aquifers are overlain by relatively impermeable rock or clay that limits recharge. Therefore, the addition of impervious surface is not likely to affect groundwater recharge.

Therefore, construction activities would not substantially deplete groundwater supplies or interfere with groundwater recharge, and impacts would not be significant.

4.14.1.4 Water Quality

Surface Water Quality

During construction, ground disturbance can result in sedimentation and erosion. As discussed above, implementation of Alternative 1 would involve clearing and grading activities within a total of 2,467 acres. Clearing and grading activities would cause short-term impacts on water quality, primarily through exposure of soils leading to erosion and sedimentation. Suspended sediments from disturbed areas can then be carried in stormwater runoff. With the implementation of proper erosion and sedimentation control measures during construction, impacts on surface water resulting from sediment-laden runoff can be minimized. Erosion and sedimentation control measures would be implemented in compliance with the city's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31) and the city's Grading and Erosion Control Ordinance (Chapter 86, Article III, Section 86-71).

Temporary adverse impacts would also occur to water quality during construction and implementation of the in-stream conceptual restoration design concepts discussed above (i.e., bank grading, implementation of grade control structures, etc.). Stream bank grading and the installation of in-stream structures would generate short-term increases in sediment loads and turbidity within Mt. Diablo Creek that would be minor. To mitigate for these potential impacts, the following general practices would be incorporated consistent with the city's grading and erosion control ordinance:

- Straw-mulching and vegetating disturbed surfaces;
- Minimizing the duration of cleared land/riparian areas;
- Directing surface flow away from denuded areas; and
- Use of appropriate erosion and sediment control measures.

Additionally, measures to protect water quality and biological resources during construction of these channel improvements would be specified in the Section 404 permit conditions and 401 Water Quality Certification.

Over the long term, implementation of Alternative 1 and the channel restoration measures would result in beneficial impacts on water quality within and downstream of Mt. Diablo Creek. Through stream bank grading, the floodplain connection would be restored with the stream, allowing for sediment and other fines to settle out onto the floodplain. Additionally, the enhancement of the riparian area through plantings would increase the functionality of the riparian area for filtering of sediment and nutrients entering the stream through surface runoff and overland flow.

Construction activities on land and in-stream could also result in the incidental release of construction materials or the accidental spill of substances commonly used in construction (i.e., fuels for vehicles and equipment, paints, solvents, and other substances). Incidental releases and spills would be minimized through the implementation of the SWPPP required under the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. The SWPPP would specify BMP requirements and measures to ensure that all pollutants and their sources are controlled, that all non-stormwater discharges are identified and eliminated or treated, and that appropriate spill-prevention measures are implemented.

As discussed above, the addition of impervious surface area can lead to an accumulation of a variety of pollutants that are then picked up by stormwater as it is washed over the impervious surfaces. Impervious surfaces accumulate various pollutants as a result of the overlying land uses. Urban areas are associated with pollutants such as oil, grease, and toxic chemicals from motor vehicles; pesticides and nutrients (nitrogen and phosphorus) from residential lawns and gardens; bacteria and nutrients from pet waste; and

heavy metals from sources such as roof shingles and motor vehicles (EPA 2003). Therefore, developed areas at the former NWS Concord have the potential to provide additional sources of non-point pollution to receiving waters such as Mt. Diablo Creek and Rattlesnake Creek. However, as discussed above, the City of Concord will require that a storm drainage system for the redeveloped site be designed to safely convey runoff from developed areas of the site in accordance with the city's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31). Under this ordinance, a stormwater control plan that meets the criteria in the most recent version of the CCCWP C.3. Guidebook is required. C.3 is a provision in the joint municipal NPDES permit that requires appropriate source control, site design, and stormwater treatment measures in new development projects to address both pollutant discharges and to prevent increases in runoff flows (CCCWP 2012). Therefore, any proposed development will be required to comply with the CCCWP's joint municipal NPDES permit. Additionally, the joint municipal NPDES permit also requires LID approaches be employed in site design. LID techniques include a variety of BMPs that maintain or restore predevelopment hydrology and reduce pollutant loading of stormwater. Lastly, surface water quality impacts would be minimized through compliance with specific measures within the CWA 401/404 permits, which will be required for work within the stream channel, such as the construction of stream crossings and the implementation of flood-control structures.

As referenced in Section 3.14.5, the Mt. Diablo Creek 303(d) impairments are being addressed through an EPA-approved TMDL, the Diazinon and Pesticide-Related Toxicity in Urban Creeks TMDL. The current regulatory mechanism to implement this TMDL is the Municipal Regional Stormwater NPDES Permit, which include the City of Concord, as part of the Contra Costa Clean Water Program. Provision C.9 (Pesticides Toxicity Control) requires permittees to implement a pesticide toxicity control program to address the use of pesticides that pose a threat to water quality and have potential to enter the municipal conveyance system (CA RWQCB 2015). In addition to these requirements related to the Municipal Regional Stormwater NPDES Permit, any new development authorized by the city will include modern stormwater control and sewer systems that would reduce polluted urban runoff and storm sewer discharges into Mt. Diablo Creek, reducing any diazinon or replacement pesticide pollution originating from the site.

Therefore, with the mitigation measures discussed above and compliance with C.3 provisions, no significant impacts on surface water quality during construction and operation of Alternative 1 for the former NWS Concord would be anticipated.

Groundwater Quality

As described in Section 3.14.3, groundwater in the low-lying valley portions of the former NWS Concord is found at depths of 30 to 50 feet under semi-confined to confined conditions. In other areas, such as at IRP Site 13 (Burn Area) and Site 22, which are within low-lying flat areas, groundwater has been encountered at depths of about 20 to 25 feet bgs under semi-confined to confined conditions. Depending upon the depths of foundations needed, excavation could encounter groundwater; however, due to the semi-confined and confined conditions in which groundwater is present, this is not likely.

If groundwater is encountered, dewatering and short-term discharges of dewater effluent (groundwater) would be required; these discharges would likely be to the separate storm sewer system. If dewatering would be necessary, dewatering activities would be regulated by the San Francisco Bay Region Regional Water Quality Control Board. An NPDES permit—general or individual—would likely be required. These permits would be associated with the requirement to prepare and implement a SWPPP, as discussed above. Impacts on groundwater quality would thus be minimized with adherence to applicable permit conditions and other measures specified above under surface water quality.

As discussed above, the primary concern with respect to surface water quality is the introduction of increased areas of impervious surface and the associated pollutants that would accumulate on those surfaces. These water-quality concerns are also applicable to groundwater quality. However, the mitigation measures discussed above are coupled with the fact that the groundwater underlying the former installation is present at 30 to 50 feet bgs in semi-confined or confined conditions. Semi-confined aquifers are those that are partially confined by soil layers with low permeability through which infiltration can occur but would occur slowly and with less certainty. Confined aquifers are overlain by relatively impermeable rock or clay that limits the ability of water to go in or out of the aquifer. Therefore, the addition of impervious surface is not likely to affect the quality of the groundwater because any surface runoff not managed (i.e., from a quantity and quality perspective) with the mitigation measures detailed above would not be infiltrating to any substantial degree and any potential impacts would be minor. As with surface water quality, no significant impacts on groundwater quality would be anticipated during the construction and operation of the redeveloped site.

4.14.1.5 Floodplains

As discussed in Section 3.14.5, flood hazard areas have not been mapped for the majority of the former NWS Concord. Only two small areas of the former NWS Concord, one north of SR 4 and near the golf course and the other west of Bailey Road near the former installation boundary, have been mapped. These areas are both associated with the floodplain of Mt. Diablo Creek (see Figure 3.14-1). The development proposed under Alternative 1 for the areas mapped as a FEMA 100-year flood hazard area would take place within the Conservation Open Space and Greenways and Citywide Parks districts (see Figure 4.14-1). Structures and/or fill in those development districts would be limited to trails, picnic areas, an interpretive area, and shaded seating areas in the Conservation Open Space district, and trails, picnic areas, shaded seating, athletic fields and sports facilities, parking lots, meeting facilities, and other similar uses in the Greenways and Citywide Parks district. Placement of these structures and/or fill within the mapped 100-year flood hazard area has the potential to impede or redirect flood flows within that hazard area. Approximately 49 acres of Zone A floodplains north of the Port Chicago Highway would be designated as Greenways, Citywide Parks, and Tournament Facilities and would be developed with the uses outlined above. Additionally, roads connecting the developed site would be located in the two areas of mapped floodplains at the former NWS Concord. Approximately 7.3 acres of Zone A floodplain and 1.3 acres of Zone AE floodplain would be impacted by road construction. A total of approximately 57.7 acres of 100-year floodplains would be impacted under Alternative 1.

As discussed in Section 3.14.5, FEMA is currently in the process of developing a detailed hydraulic model of Mt. Diablo Creek that is reflective of existing conditions. This model will then be used to delineate and map the 100-year floodplain within the former NWS Concord boundaries. Once the revised 100-year floodplain boundaries within the former NWS Concord are completed, they would be compared to the modeled post-development hydrologic and hydraulic conditions associated with Alternative 1 to determine whether a modification to the existing regulatory floodway, the effective base flood elevations (if established), or the 100-year special flood hazard area would result from redevelopment. The City of Concord will then require an approved Conditional Letter of Map Revision (CLMR) from FEMA to demonstrate that the 100-year design flow is contained within Mt. Diablo Creek and that none of the aforementioned modifications would be necessary.

However, based on the discussions included above in Section 4.14.2.1, preliminary modeling of both the 10-year and 100-year flood events for the proposed conditions indicated that the conceptual design elements for Mt. Diablo Creek would provide enough capacity with the stream to contain the 100-year flood event (ESA PWA 2011). Additionally, the model indicated that the proposed conceptual design elements within the creek itself, coupled with the proposed 40-acre detention basin, would reduce surface water levels within the creek, thereby preventing flooding. Modeling would be conducted again, once the development plans have been finalized and detailed site plans exist, but the data available to date, coupled

with the requirement to prepare a CLMR, indicate that through the implementation of these mitigation measures, the implementation of Alternative 1 would not increase the risks from flooding or inundation. Therefore, impacts on floodplains would not be significant.

4.14.2 Alternative 2

4.14.2.1 Surface Water

Site Disturbance, Erosion, and Sedimentation

Similar to Alternative 1, Alternative 2 would involve clearing and grading activities in a large portion of the site, including disturbance to Mt. Diablo Creek and its riparian corridor. Mitigation for impacts on surface waters resulting from site disturbance would be the same as those discussed for Alternative 1, including adherence to an NPDES General Permit for Discharges of Storm Water Associated with Construction Activity and adherence to the provisions of the city's Stormwater Management and Discharge Control Ordinance.

Drainage Patterns and Streambed and Bank Disturbance

Disturbance to drainage patterns and streambeds and banks under Alternative 2 would be similar to that discussed for Alternative 1, given the similarities in location of developed and conservation areas. Tributaries on the eastern portion of the site would not be disturbed during construction, nor would Rattlesnake Creek or Cistern Pond.

However, the drainage patterns associated with the remainder of the site have the potential to be altered with the proposed Alternative 2 development footprint, as the majority of the development would occur on the western and northwestern portions of the former installation. These impacts would be the same as those discussed for Alternative 1.

Culvert placements can also contribute to the alteration of existing drainage patterns and stream flow if they are not designed appropriately. Similar to Alternative 1, development under Alternative 2 is proposed on both sides of Mt. Diablo Creek, thereby creating the need for stream crossings to allow pedestrians, vehicles, or utilities to cross the creek. Alternative 2 proposes seven crossings of Mt. Diablo Creek, which would result in a reduction of 10 crossings from existing conditions; this is the same number of crossings proposed under Alternative 1. Thus, similar to Alternative 1, the linear footage of stream with culverts would be reduced under Alternative 2. This would be a beneficial impact on Mt. Diablo Creek. However, where new culverts are installed, impacts would include the loss of the natural drainage course and the existing substrate being permanently replaced with an artificial hard surface. A streambed alteration agreement will be required to be obtained from the CDFW for any activity that would result in an adverse impact on streams at the former NWS Concord.

Culvert design should be done by the developer(s) according to established guidance, such as the FHA's Hydraulic Design of Highway Culverts (FHA 2001). As per the USACE Public Notice for the Concord Area Plan, any new culvert crossings should be designed to span the channel (USACE 2016).

In summary, through the implementation of the project-specific SWPPP and BMPs, coupled with appropriate culvert design, the impacts related to altered drainage patterns and the construction of new crossings would not be significant, and no additional mitigation is proposed.

Filling of Streams

The filling of streams under Alternative 2, would result in similar levels of impacts, as those discussed under Alternative 1. Within the Area Plan EDC, approximately 1.39 acres of fill would occur, primarily in a portion of Willow Pass Creek in the Commercial Flex development district and in an unnamed

tributary to Mt. Diablo Creek, which drains the east side of the Central Neighborhoods development district (Table 4.14-3). It is assumed that the restoration of Mt. Diablo Creek would result in similar fill volumes, as those discussed under Alternative 1, including the no net loss in stream length. In the Conservation and Open Space district, approximately 0.04 acres of other water impacts would be expected in association with the development of the park infrastructure.

Permanent impacts on surface waters resulting from filling would be mitigated through adherence to the USACE- and EPA-issued regulations governing compensatory mitigation for authorized impacts on streams. Specific requirements for future development would be determined in coordination with the USACE and RWQCB. A site-specific mitigation plan would be developed as part of the Section 401/404 permitting process, similar to those plans discussed under Alternative 1. Therefore, Alternative 2 would result in a potentially significant impact on surface waters, but mitigation would reduce this impact to not significant.

Table 4.14-3 Summary of Other Waters Impacts under Alternative 2

Source of Impact	Other Waters	
	Total Fill (acres)	Net Loss (acres)
Area Plan Economic Development	1.39	1.39
Mt. Diablo Creek Restoration	1.00[1]	0[1]
Conservation Open Space	0.04	0.04
Totals	**2.43**	**1.43**

[1] The assumption of 1-acre of fill and no net loss for Mt. Diablo Creek Restoration work originated from the assumptions presented in the USACE Public Notice: 2010-00190S (Concord Naval Weapon Station Redevelopment) (USACE 2016).

Increasing Impervious Surfaces

Under Alternative 2, the total impervious surface area would be 1,369 acres, compared to the approximately 359 acres that currently exist. Future stormwater discharges would be managed as described above for Alternative 1, including compliance with the City of Concord's Stormwater Management and Discharge Control Ordinance and C.3 provisions of the joint municipal NPDES permit.

If Alternative 2 were selected, the City of Concord would likely commission a study similar to the *Conceptual Plan for Restoration and Flood Management* (ESA PWA 2011) which discusses potential projects or design concepts to accommodate both existing flood flows and flood flows attributable to redevelopment, to guide mitigation measures necessary to address increased flows that would result under Alternative 2 at full build-out. The implementation of design concepts and detention measures outlined in a conceptual plan like the one prepared for Alternative 1, coupled with adherence to the city's Stormwater Management and Discharge Control Ordinance and C.3 provisions of the joint municipal NPDES permit, would mitigate potential operational impacts on drainage patterns and increased flood flows. Therefore, impacts on surface water would not be significant.

4.14.2.2 Wetlands

Similar to Alternative 1, the implementation of Alternative 2 could result in potential impacts on wetlands from direct filling or alteration of hydrology. Alternative 2 is estimated to result in approximately 4.85 acres of total wetland fill. The Area Plan EDC area would involve the filling of 4.23 acres of wetlands; approximately 2 acres of this fill would occur within the wetlands in the TOD and Central Neighborhoods development districts, as well as within the Commercial Flex district, on the west side of Mt. Diablo Creek. The remaining fill of 2 acres of wetlands is located primarily within the Commercial Flex development district on the east side of Mt. Diablo Creek within the vicinity of Willow Pass Creek. The development of the Conservation Open Space would be estimated to fill 0.62 acres of wetlands, through

park infrastructure and/or conservation-related enhancements for endangered species, similar to those discussed under Alternative 1. Although, not known at this time, the net loss of wetlands, resulting from the placement of fill, could be expected to be less, based on similar minimization measures, as discussed under Alternative 1. The majority of wetlands that would be affected by Alternative 2 are located in historically and currently grazed rangeland. Thus, similar to Alternative 1, these wetlands have functions and values below their full potential; however, any loss of wetland function would be addressed by requirements specified through the Section 404 permitting process.

Table 4.14-4 Summary of Wetland Impacts under Alternative 2

Source of Impact	Wetlands[1]	
	Total Fill (acres)	Net Loss (acres)
Area Plan Economic Development	4.23	4.23
Conservation Open Space	0.62	0.62
Totals	**4.85**	**4.85**

As discussed for Alternative 1, impacts on wetlands under Alternative 2 would be mitigated through the CWA Section 404 permitting process. Specific requirements for development would be determined in coordination with the USACE as part of the City of Concord's site-wide permit for the Concord Area Plan. Under the Section 404(b)(1) guidelines, the USACE will require the City of Concord's site-wide Section 404 Individual Permit application or if the city does not secure a site-wide permit will require future landowners' or developer's permit applications to demonstrate avoidance of wetland filling to the extent practicable and to provide mitigation for all unavoidable fill of wetlands or other waters of the U.S. pursuant to the 2008 Compensatory Mitigation Rule (33 CFR 325&342, 40 CFR 230).

Therefore, Alternative 2 would not result in a significant adverse impact on wetlands.

4.14.2.3 Groundwater

Similar to Alternative 1, groundwater would not be used for any construction activities, such as dust control or watering of vegetated erosion-control features. Additionally, no groundwater wells would be developed as part of Alternative 2 and no existing wells would be used for water supplies.

Depending upon the depths of foundations needed, excavation could encounter groundwater; however, due to the semi-confined and confined conditions in which groundwater is present, this is not likely. However, if it does occur, dewatering and subsequent discharges would be done in accordance with applicable permits and conditions stipulated by the San Francisco Bay Regional Water Quality Control Board. Construction dewatering, if necessary, would be short-term in nature and would have an associated minor and short-term impact on the underlying groundwater.

Because a larger portion of the former NWS Concord is designated as Conservation Open Space under Alternative 2, much of the existing open space would remain undeveloped and pervious surfaces would allow for continued infiltration of surface water and contribution to groundwater recharge.

Implementation of Alternative 2 would result in an increase in impervious surfaces from the 359 that currently exist to approximately 1,369 acres. By increasing the imperviousness of the project site, there would be less infiltration of rainfall, limiting the potential for groundwater recharge. However, as discussed for Alternative 1, the addition of impervious surface is not likely to affect groundwater recharge.

Therefore, Alternative 2 would not result in a significant adverse impact on groundwater.

4.14.2.4 Water Quality

Surface Water Quality

Impacts on surface water quality under Alternative 2 would be similar to those discussed for Alternative 1, and would include sedimentation and erosion from clearing and grading activities, short-term increases in sediment loads and turbidity during construction and implementation of in-stream restoration, and the incidental release of construction materials or an accidental spill of substances commonly used in construction. These impacts would be mitigated through the implementation of mitigation measures in compliance with the city's Stormwater Management and Discharge Control Ordinance (Chapter 86, Article II, Section 86-31) and the city's Grading and Erosion Control Ordinance (Chapter 86, Article III, Section 86-71), as well as SWPPP as required under the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity.

Lastly, the addition of impervious surface area can result in surface water quality impacts. However, as discussed under Alternative 1, the City of Concord will require that a storm drainage system be designed in accordance with the C.3 provisions, and that redevelopment complies with the CCCWP's joint municipal NPDES permit. Additionally, surface water quality impacts would be minimized through compliance with specific measures within the CWA 401/404 permits, which will be required for work within the stream channel, such as the construction of stream crossings and the implementation of flood-control structures.

Therefore, with the mitigation measures discussed above, no significant impacts on surface water quality during construction and operation of the Area Plan for the former NWS Concord would be anticipated.

Groundwater Quality

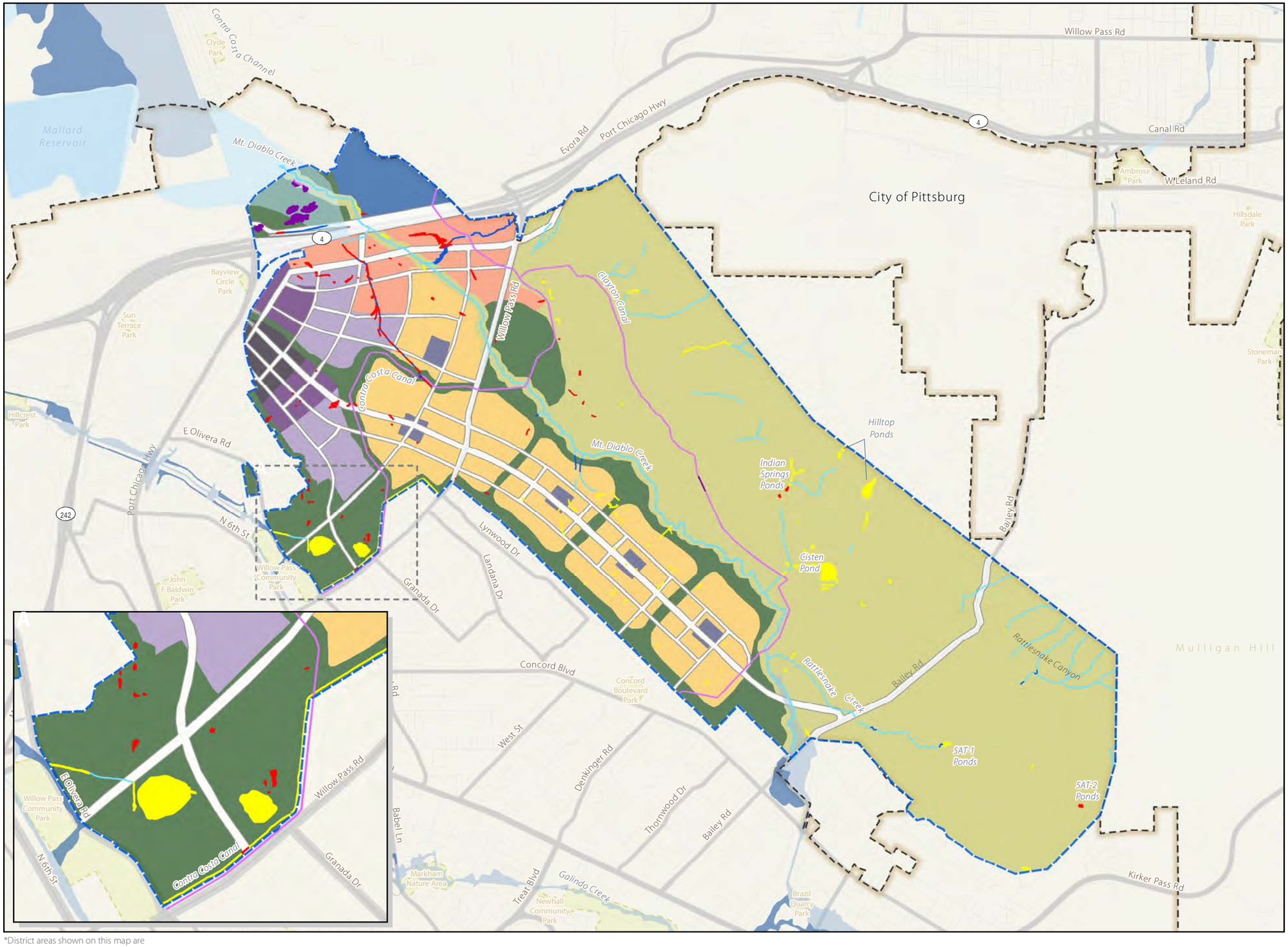
Impacts on groundwater quality under Alternative 2 would be similar to those discussed for Alternative 1, and could include the potential for construction dewatering and the introduction of pollutants associated with impervious surfaces. Minimization measures such as the adherence to permit conditions for dewatering and implementation of LID techniques and other stormwater BMPs as indicated in the joint municipal NPDES permit would prevent significant impacts on groundwater quality and any impacts that would result would be minor.

Therefore, no significant impacts on groundwater quality during construction and operation of the Area Plan would be anticipated.

4.14.2.5 Floodplains

The reuse proposed under Alternative 2 for the areas mapped as a FEMA 100-year flood hazard area would be Conservation Open Space and Greenways and Citywide Parks districts (see Figure 4.14-2). Structures and/or fill in those development districts would be limited to trails, picnic areas, an interpretive area, and shaded seating areas in the Conservation Open Space, and trails, picnic areas, shaded seating, athletic fields and sports facilities, parking lots, meeting facilities, and other similar uses in the Greenways and Citywide Parks district. Placement of these structures and/or fill within the mapped 100-year flood hazard area has the potential to impede or redirect flood flows within that hazard area. Approximately 47 acres of Zone A floodplains north of the Port Chicago Highway would be designated as Greenways, Citywide Parks, and Tournament Facilities and would be developed with the uses outlined above. Additionally, roads connecting the redeveloped site would be located in the two areas of mapped floodplains at the former NWS Concord. Approximately 8.3 acres of Zone A floodplain and 1.3 acres of Zone AE floodplain would be impacted by road construction. A total of approximately 57 acres of 100-year floodplains would be impacted by redevelopment under Alternative 2.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\Surface_Waters_Alternative_2_2017_04_05.mxd



*District areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

Figure 4.14-2

Alternative 2 Redevelopment and Potential Surface Water Impacts

Former NWS Concord

Concord, California

Legend

- Major Highway
- Local Road
- Former NWS Concord
- City Limits
- Waterbody
- Local Park
- Roadways

- Impacted Non-Jurisdictional Waters
- Non-Impacted Non-Jurisdictional Waters
- Impacted Other Waters
- Non-Impacted Other Waters
- Impacted Wetlands
- Non-Impacted Wetlands

Flood Zone

- A
- AE
- AO

Zone A- 100-year floodplain in which no base flood elevations or depths exist.
Zone AE- 100-year floodplain in which base flood elevation exists.
Zone AO- Subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow).

*Alternative 2 Types of Districts

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- Greenways and Citywide Parks
- North Concord TOD Core
- North Concord TOD Neighborhood
- Village Center
- Village Neighborhood

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; H. T. Harvey & Associates, 2009. Federal Emergency Management Agency, 2013.

This page intentionally left blank.

Similar to the discussions for Alternative 1, when FEMA has completed a formal delineation of floodplains onsite, they would be compared to modeled post-development hydrologic and hydraulic conditions associated with Alternative 2 to determine whether a modification to the existing regulatory floodway, the effective base flood elevations (if established), or the 100-year special flood hazard area would result from the implementation of Alternative 1. The City of Concord will then require an approved CLMR from FEMA to demonstrate that the 100-year design flow is contained within Mt. Diablo Creek and that none of the aforementioned modifications would be necessary. A series of mitigation measures similar to those discussed above for Alternative 1 would be implemented. Therefore, the implementation of Alternative 2 would not increase the risks from flooding or inundation.

Therefore, no significant impacts on groundwater quality during construction and operation of the Area Plan would be anticipated.

4.14.3 No Action Alternative

Under the No Action Alternative, the former NWS Concord would be retained by the U.S. government in caretaker status, and reuse of the installation would not occur. The potential impacts on water resources associated with the proposed action would also not occur. The property would be maintained in accordance with the BRAC PMO Building, Vacating, Facility Layaway, and Caretaker Maintenance Guidance (March 2007), and only conditions adversely affecting public health, the environment, and safety would be corrected. Adverse impacts on water resources are not anticipated under the No Action Alternative.

This page intentionally left blank.

5 Cumulative Effects

This chapter provides an analysis of cumulative effects, which are impacts from the proposed action that might not be significant when considered alone but could contribute to significant impacts when considered in conjunction with impacts from past, present, or reasonably foreseeable future actions. As defined by the CEQ, "Cumulative effects are those that result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR Section 1508.7). This cumulative effects analysis was completed in accordance with CEQ guidance (January 1997 and June 2005) and EPA guidance (May 1999).

5.1 Methodology

The approach used in this chapter to assess cumulative impacts includes the following elements:

1. Establishment of the geographic scope and timeframe for each resource area as discussed in Section 5.2 below.
2. Identification of potentially significant cumulative impacts associated with the proposed action, based on the direct and indirect effects of it. If the incremental impacts were deemed to be inconsequential or unimportant in the region, no analysis of cumulative effects is needed (see Table 5-1).
3. Characterization of the existing resources and definition of baseline conditions, including past actions that have affected resources in the cumulative study area.
4. Identification of other reasonably foreseeable present and future actions affecting the resources in the cumulative study area.
5. Identification of the important cause-and-effect relationships between human activities and resources in the geographic or study area and how these relationships could result in potentially significant cumulative effects.
6. If necessary, identification of measures to avoid, minimize, or mitigate any potentially significant cumulative effect.

In accordance with CEQ guidance, if a proposed action would not cause a direct or indirect impact on a resource, it would not contribute to a cumulative impact on that resource and would not need to be further evaluated.

5.2 Geographic Scope and Timeframe

Cumulative impacts most likely occur when a proposed action is related to actions that could occur in the same or an overlapping geographic location and at the same or similar time. Therefore, cumulative effects are considered within specific geographic scopes and timeframes.

The geographic scope (i.e., cumulative study area) used in this analysis varies by resource area. Generally, the cumulative study area is the study area identified in Chapter 3 within which direct and indirect impacts for each resource area could occur, but it also can include a larger geographic area depending on the characteristics and locations of affected resources, ecosystems, and human communities.

The timeframe used in this analysis considers the past, present, and reasonably foreseeable future conditions within the cumulative study area. In addition, the timeframe reflects the resource concerns, the cumulative study area, the proposed action, and the interrelationship of other resources.

Past and present conditions reflect conditions generated from the end of World War II to the present. Reasonably foreseeable conditions extend to 2040 based on the assumed 25-year build-out of the approved Area Plan.

5.3 Past, Present, and Reasonably Foreseeable Actions

This section reviews past and present conditions, and reasonably foreseeable projects, actions, and trends, that could contribute to cumulative impacts. Reasonably foreseeable actions include projects that have been formally proposed and/or approved by relevant local jurisdictions. This analysis uses a combined "lists and plans" approach and includes a review of specific development proposed, approved, or completed, as well as an analysis of development projected in regional and local plans, to determine the context for the proposed action's effects on sensitive resources and the magnitude of the impacts in conjunction with impacts from other development affecting the same resources.

Two regional agencies, ABAG and the MTC, prepare and oversee regional plans for the nine-county Bay Area. In 2013, ABAG and the MTC published a program-level EIR for Plan Bay Area, in accordance with CEQA. Plan Bay Area, the first of its kind for the region, updates the 2009 Regional Transportation Plan and includes a new Sustainable Communities Strategy for the San Francisco Bay Area. Because most cumulative impacts are likely to occur at a more local level, the identification of past, present, and reasonably foreseeable actions included in this section is based not only on information contained in Plan Bay Area and the EIR prepared for the plan but also the following sources:

- General plans for the cities of Concord, Clayton, Pittsburg, Walnut Creek, Pleasant Hill, and Martinez
- The EBRPD Master Plan
- Information provided by the Navy, U.S. Coast Guard, and Army regarding other BRAC actions that have taken place or will take place in Contra Costa County
- Other federal, state, and local actions in Contra Costa County
- State and regional air quality management plans
- Lists of reasonably foreseeable (proposed, approved, and under construction) development in the cumulative study area provided by the cities of Concord, Clayton, Martinez, and Pittsburg; Caltrans; and CEQAnet, the online searchable environmental database of the California State Clearinghouse within the California Office of Planning and Research.

Because of the programmatic characteristics and the uncertain nature of the timeline and location of the development associated with the proposed action, information from the plans listed above is presented in summary fashion and at a qualitative level. Specific projects identified by the jurisdictions listed above are also included and discussed in this section to present more concrete information about projects within the City of Concord, adjacent cities, and in the region as a whole. This information will be used to better define the context for development that is reasonably foreseeable in the cumulative study area within the 25-year build-out period of the proposed action.

5.3.1 Past and Present Conditions

The present-day Bay Area has been shaped by growth that has taken place since World War II, and it reflects sometimes rapid bursts of urbanization near the urban centers of San Francisco, Oakland, and San Jose, in a region previously characterized by agriculture. Large areas of agricultural uses, especially in Contra Costa, Alameda, and Santa Clara counties, have undergone conversion to urban and suburban uses in the past 50 to 60 years.

The Bay Area is the fastest-growing area in the state (California Department of Finance 2014). In the past decade, however, and partly as a result of the 2007-2010 recession, growth and development in the Bay Area has slowed to a rate that is more consistent with the rest of the country (ABAG and the MTC 2013). The region continues to suffer from a severe shortage of affordable housing for the workers in the region (ABAG and the MTC 2013).

Although the region has over one million acres of parks and open space (ABAG and the MTC 2013) as well as approximately 200,000 acres of permanent plant and wildlife reserves in private lands, the effects of urbanization have also led to the degradation of many regional resources, including air resources, plants and wildlife, wetlands, rivers, streams, and the San Francisco Bay itself. For example, many streams in the Bay Area have been developed for flood control and been channelized, reducing the ecological value of these resources and their ability to provide habitat for riparian and aquatic vegetation and wildlife.

Contra Costa County

In the 1950s, developers built large suburban housing developments in areas like Concord that were farther from urbanized centers such as San Francisco and Oakland. Commercial, office, and industrial development followed in these areas in the 1960s and 1970s, resulting in the establishment of new urban centers. The extension of BART and highway developments, including the expansion of the Caldecott Tunnel and the widening of SR 4, allowed Contra Costa County residents to commute to Silicon Valley and other industrial and commercial centers. Residential development and regional highway and mass transit projects have resulted in a degradation of both air quality and traffic levels of service throughout the Bay Area, as well as increased noise pollution. Central Contra Costa County residents who drive to other parts of the Bay Area on a daily basis can experience significant rush hour delays. Rapid urbanization in rural or agricultural areas has affected plant and wildlife resources throughout the county, as well as sensitive ecosystems such as wetlands, waterways, and riparian areas. To address these impacts, Contra Costa County has undertaken natural resources preservation, restoration, and enhancement projects, including the expansion of lands held by the EBRPD, and large-scale wetland and shoreline restoration projects, many of which are located adjacent to San Francisco Bay.

Other notable development trends in Contra Costa County include the establishment of energy projects, including wind projects in the Altamont Pass Wind Resource Area and the construction and expansion of refineries in Richmond, Martinez, and unincorporated Contra Costa County. The Altamont Pass Wind Resource Area is a 37,000-acre site that straddles eastern Contra Costa and Alameda counties where more than 5,000 wind turbines have been installed since 1966 (ICF International 2016). Due to the age of the turbines and their high avian impacts, many of the wind farms in the resource area are undergoing "re-powering" which involves dismantling the old wind turbines and replacing them with fewer, better-sited, more powerful wind turbines. Repowering projects include Buena Vista Wind Energy Repowering, Tres Vaqueros Windfarm Repowering, and Vasco Winds Repowering. Wind energy projects generally have a lower level of environmental impact, although they can adversely impact bird and bat species. The dismantling and re-powering projects will reduce these impacts (Smallwood and Neher 2016).

Refinery projects, including those built by Chevron, Tesoro, Conoco Phillips, and Shell, impact air quality and visual resources in the northern Contra Costa region.

Former NWS Concord

As discussed in Chapter 1, the former NWS Concord was a major munitions depot for the Pacific Coast during World War II and was one of the oldest naval ordnance bases located there. It was active from World War II through the Vietnam War, but by 1999, a minimal contingent of military personnel was stationed at NWS Concord, and the Navy formally placed the facility into a reduced operational status. In 2005, NWS Concord was designated for closure by the BRAC Commission.

Approximately 59 acres of the former NWS Concord that supported military housing were transferred to the U.S. Coast Guard in April 2007.

The portion of the former NWS Concord adjacent to Suisun Bay was transferred to the U.S. Army in 2008 and is now the MOTCO. The MOTCO is an Army Military Surface Deployment and Distribution Command (SDDC) munitions and general cargo transshipment facility, is the primary West Coast common-user ammunition terminal, and is home to the SDDC's 834th Transportation Battalion (U.S. Department of the Army 2013).

5.3.2 Reasonably Foreseeable Actions

Reasonably foreseeable future growth in the region is likely to include further development of urban and suburban housing. By 2040, housing developed in the region is likely to include a greater percentage of high-density and transit-oriented residential development than in the past (ABAG and the MTC 2013)[1]. Job growth in the area is forecasted to slow from 2020 to 2040 (ABAG and the MTC 2013); even with the slowing of job growth, however, it is likely the region will continue to experience a potentially severe shortage of affordable housing through 2040. Development trends for the region include further development of jobs at regional centers, the expansion and enhancement of downtown areas and transit corridors to serve residents, and new development potential for industrial and agricultural land (ABAG and the MTC 2013), as well as continued reuse of former military properties with mixed uses and housing.

Specific types of regional development and anticipated impacts are discussed below. This discussion does not encompass all projects in the region; rather, the discussion below includes known projects that are likely to be developed that could contribute to cumulative impacts in conjunction with the proposed action.

Table 5-1 includes a list of reasonably foreseeable projects in the vicinity of the former NWS Concord that were considered in the cumulative analysis. Relevant jurisdictions include cities adjacent or nearly adjacent to the former NWS Concord (Concord, Pittsburg, Clayton, Walnut Creek, Pleasant Hill, and Martinez), unincorporated Contra Costa County, and the East Bay region as a whole. In the City of Concord, any residential project of six or more units was included in Table 5-1 if it was recently approved, under review, under construction, or approved in the past but not yet constructed. Outside of the City of Concord, any residential project in a relevant city jurisdiction was listed if it included 25 or more units. In unincorporated Contra Costa County, a residential project was only considered if the proposed development had potential to interrupt contiguous wildlife habitat. Commercial/institutional and industrial projects permitted by the city or county jurisdictions were recorded in Table 5-1 if they exceeded 10,000 square feet of construction. Also, any industrial or non-residential project that triggered

[1] Projections 2013 Technical Report.

Table 5-1 Summary of Development Proposed and Approved by Local Jurisdictions[1]

Development Characteristics	City of Concord	City of Clayton	City of Pittsburg	City of Walnut Creek	City of Pleasant Hill	City of Martinez	Unincorporated Contra Costa County
Number of Projects	**19**	**2**	**45**	**22**	**4**	**3**	**4**
Single Family Residential (Units)	53	59	5,102	52	44	224	417
Multi-Family Residential (Units)	957		1,459	1,523			193
Commercial/Institutional (Square Feet)	431,154	121,968	1,821,174	535,879	126,885		2,556,972[2]
Non-Refinery Industrial (Square Feet)	127,474		2,097,135				
Urban Agriculture (Square Feet)			75,000				

Sources: City of Concord 2016b; Contra Costa County n.d.; City of Clayton 2016; City of Pittsburg 2017b; City of Walnut Creek 2016; City of Pleasant Hill 2017a,b; City of Martinez 2016, 2017; Austin 2017.

Notes:

1) Development classified as proposed, approved, under construction, and on hold was included if the local jurisdiction recorded it among their active projects listings. In the City of Concord, any residential project of six or more units was included. A residential project in the other relevant cities was listed if it included 25 or more units. In unincorporated Contra Costa County, a residential project was included only if the proposed development had potential to interrupt contiguous wildlife habitat. Commercial/institutional and industrial projects permitted by the city or county jurisdictions were included if they exceeded 10,000 square feet of construction.
2) Square footage of a cemetery development, including associated structures.

review under CEQA within the past five years was investigated. Finally, land use plans in the relevant city jurisdictions and parks and air quality plans for the East Bay were reviewed because of their potential impact on the region.

Figures 5-1 through 5-3 illustrate the locations of the most relevant foreseeable projects in the vicinity of the former NWS Concord site. Figure 5-1 identifies projects within 1 mile of the site that have been recently proposed, permitted, or are under construction. Projects located beyond 1 mile of the former NWS Concord were included in the figures depending on their size, proposed activity, and proximity to the former NWS Concord. Figure 5-2 shows several projects within 5 miles of the site, particularly in the cities of Concord and Pittsburg but also in Walnut Creek, Pleasant Hill, Martinez, Clayton, and the county. In the City of Concord, residential and commercial projects proposing 10 or more units or exceeding 10,000 square feet were included. In the City of Pittsburg, several subdivisions proposed in the undeveloped region along the city's southern extent were mapped because of their proximity to the former NWS Concord and their potential impacts on wildlife habitat. A few other residential projects in the region were mapped because of their size and potential to increase traffic or disturb contiguous wildlife habitat. Industrial or commercial projects within 5 miles were added to Figure 5-2 if their size or activity indicated they could have potential effects on air quality and transportation in the vicinity of the former NWS Concord. Operating refineries in the vicinity were mapped on both Figures 5-2 and 5-3 because of their ongoing impacts on air quality in the region. Northern Contra Costa County is depicted on Figure 5-3 to provide regional context for the former NWS Concord and illustrate the multiple regional parks and preserves in the vicinity. As noted, the figure also illustrates operating refineries as well as other marine terminals along the northern coast, both within and beyond 5 miles of the site.

5.3.2.1 Navy and Department of Defense Actions

Foreseeable development of DOD properties in Contra Costa County includes reuse and redevelopment of former military installation land that will include new housing and improvements to existing Navy facilities.

The Army prepared an EIS to evaluate the proposed modernization and repair of Piers 2 and 3 at MOTCO to fully meet current and future mission requirements. The final EIS was released in 2015 and construction on the piers has begun. This project is estimated to require as many as 80 workers during construction and demolition of the inoperable pier. Impacts were identified in the final EIS, and steps to address them include these goals:

- No net loss of wetlands
- Minor air emissions but no effect on air quality
- No adverse impacts on amphibians
- Consistency, to the maximum extent practicable, with the Bay Conservation and Development Commission (BCDC) coastal management program
- Negligible short-term construction traffic impacts
- Only minor, short-term, adverse noise impacts (U.S. Department of the Army 2015)

Other BRAC projects are planned for the region, such as the reuse of the former Naval Air Station Alameda, Hunter's Point Naval Shipyard, and the Naval Station at Treasure Island, but these are over 20 miles from the proposed action and are unlikely to have a significant contribution to cumulative impacts.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\New_Projects_within_1_Mile.mxd March 2017

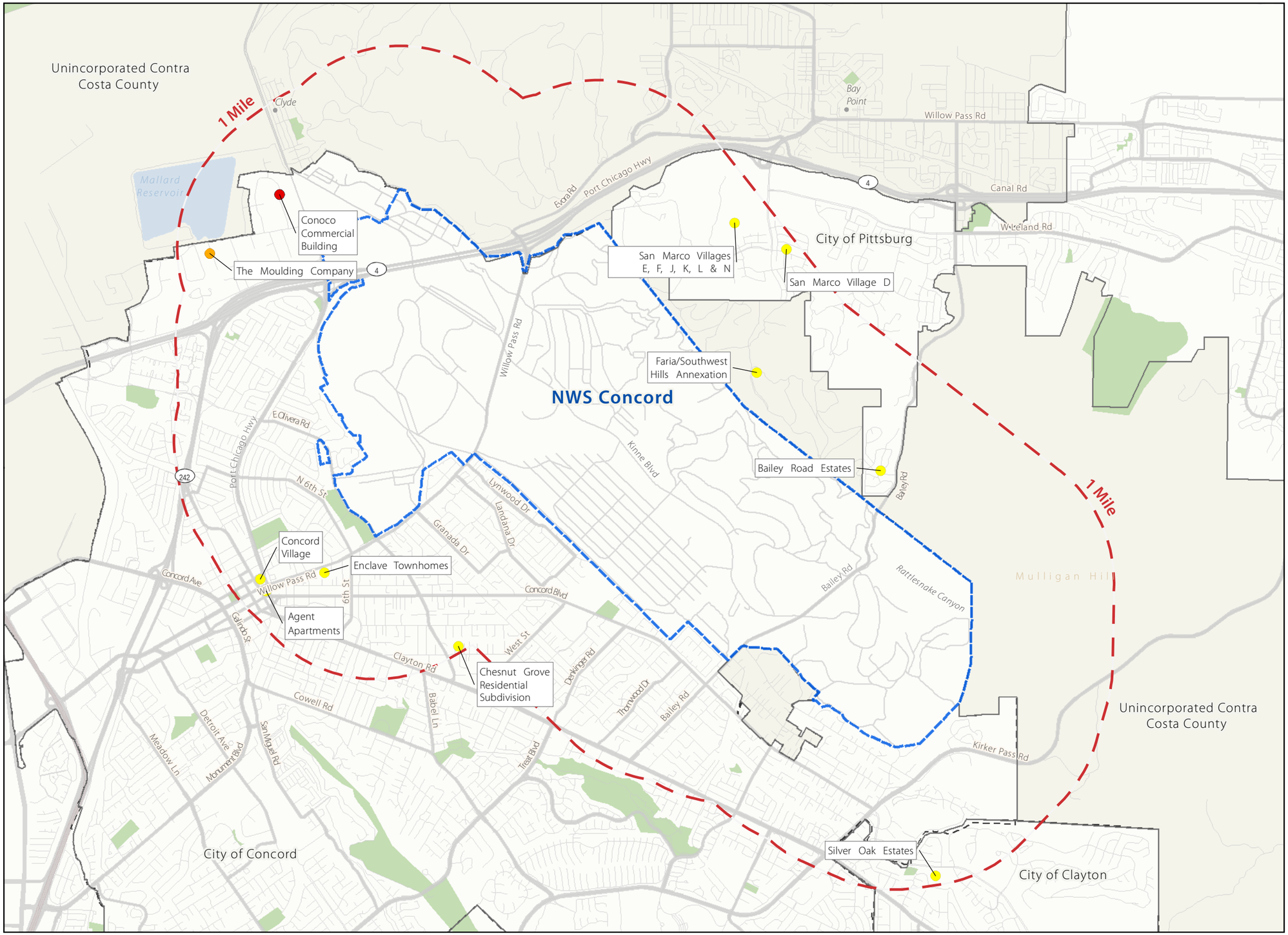


Figure 5-1

Reasonably Foreseeable Developments within 1Mile of the Project*

Former NWS Concord
Concord, California

Legend

- Census Designated Place/Town
- Former NWS Concord
- Former NWS Concord, 1-Mile Buffer
- City Limits
- Local Park
- Waterbody

Project Locations

- New Commercial Project
- New Industrial Project
- New Residential Project

*Projects within one mile of the site were mapped if they met a threshold of six or more residential units or more than 10,000 square feet of non-residential development.

*Projects may be proposed, permitted, or under construction.

N

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010; U.S. Geological Survey, California Geological Survey 2006.

This page intentionally left blank.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\Industrial_Projects_within_5_Miles_rev01.mxd March 2017

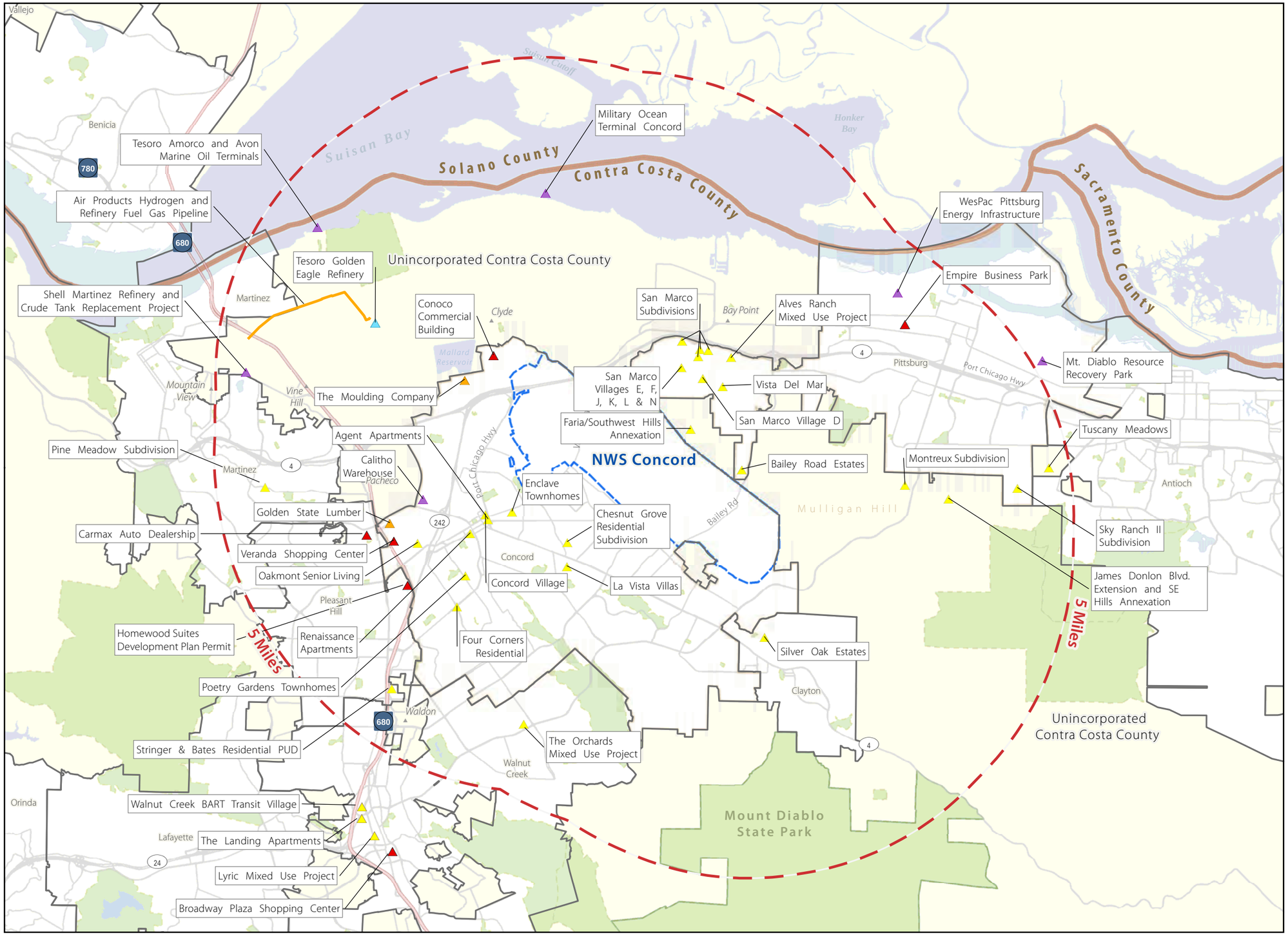


Figure 5-2
Reasonably Foreseeable Projects within 5 Miles of the Project*
Former NWS Concord
Concord, California

Legend

- Census Designated Place/Town
- Former NWS Concord
- Former NWS Concord, 5-Mile Buffer
- City Limits
- Park
- Local Park
- Waterbody

Project Locations

- New Commercial Project
- Existing Industrial Project
- Industrial Redevelopment Project
- New Industrial Project
- New Residential Project

*Projects in the City of Concord within 5 miles of the former NWS Concord ("site") were mapped if they consisted of 10 or more residential units or exceeded 10,000 square feet of non-residential development.

*Proposed, approved, or underway subdivisions along the City of Pittsburg's undeveloped southern extent were mapped to illustrate their proximity to the site.

*Other residential projects were mapped if their size and location could potentially contribute to a cumulative effect on traffic or wildlife

*Industrial or commercial projects within 5 miles of the site were mapped if their size or activity indicated potential effects on air quality or transportation.

N

SCALE

0 1 2 Miles

SOURCE: ESRI, 2010; U.S. Geological Survey, California Geological Survey 2006.

This page intentionally left blank.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\2017_UPDATE\County_Wide_Projects.mxd

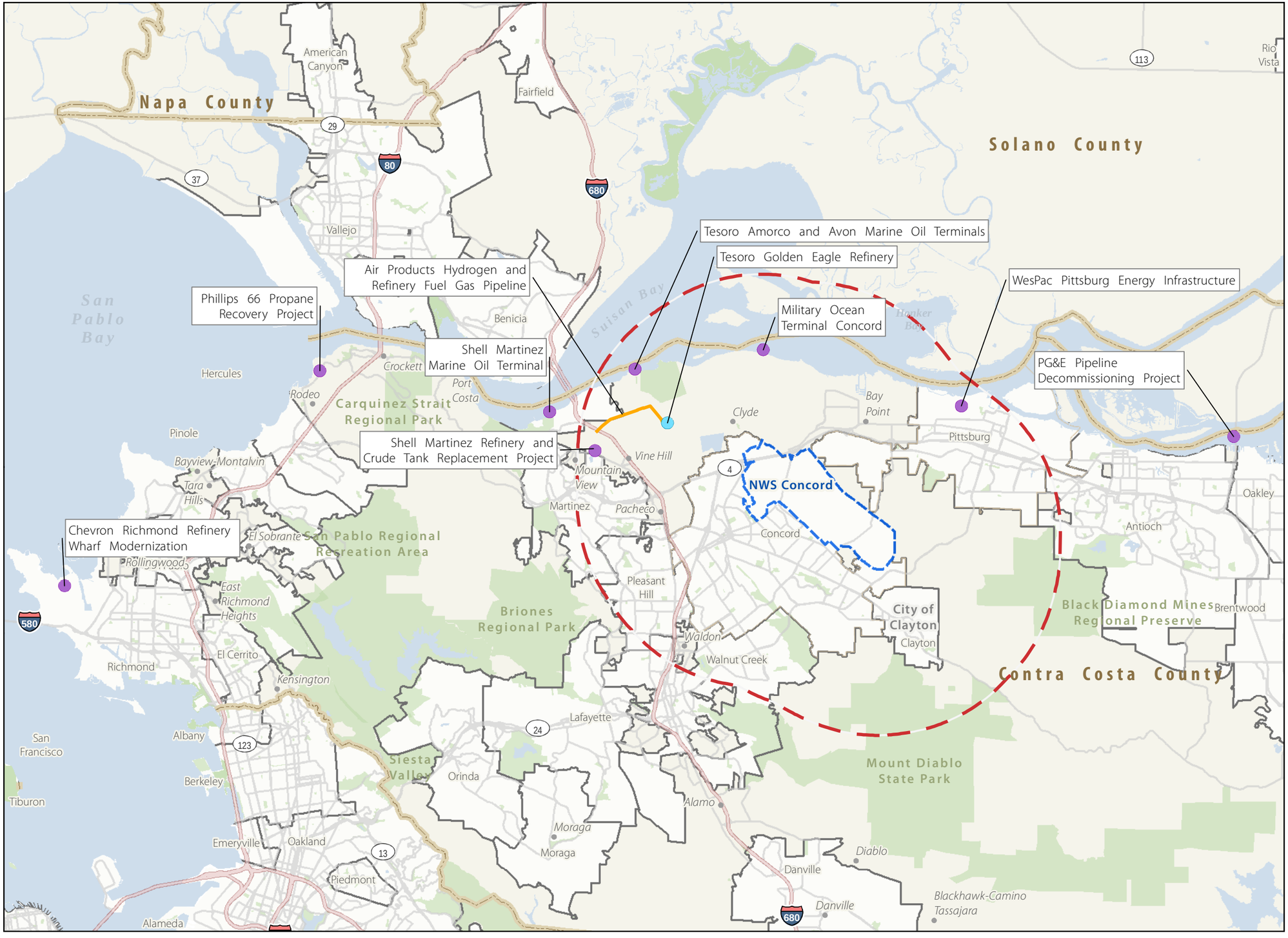


Figure 5-3

Northern Contra Costa County: Refinery-Related Projects, Marine Terminals, and Regional Parks

Former NWS Concord
Concord, California

Legend

- County Boundary
- Former NWS Concord
- Former NWS Concord, 5-Mile Buffer
- City Limits
- Park/Recreation Area
- Waterbody

Marine Terminal and Refinery-Related Developments

- Existing Development
- Redevelopment Proposed or Underway
- New Development

SCALE
0 2 4 Miles

SOURCE: ESRI, 2010; Contra Costa County, 2012; City of Pittsburg, 2008; City of Concord, 2012.

This page intentionally left blank.

5.3.2.2 Residential, Commercial, and Light Industrial Development

A summary of the residential, commercial, and light industrial development projects currently proposed or approved by the cities of Concord, Pittsburg, Clayton, Walnut Creek, Pleasant Hill, and Martinez and unincorporated Contra Costa County is presented in Table 5-1. The table includes some approved and pending projects that are expected to be operational by the time of the completion of the proposed action.

The majority of development proposed or approved locally is residential development and consists of single-family and multi-family housing. Compared to past decades, housing development in Central Contra Costa County anticipated in the near to long term is likely to be predominantly higher density. New single-family housing is anticipated to be on smaller lot sizes with narrow setbacks, and higher-density urban housing is anticipated to be located around mass transit or transit corridors.

Several large-scale residential subdivisions are proposed for the City of Pittsburg, and some have recently begun construction. Many of these projects are located in the undeveloped, southern portion of the city. Projects in this undeveloped swath that are immediately adjacent to the east boundary of the former NWS Concord are described below (also see Figure 5-2).

- **Faria/Southwest Hills Annexation:** The proposed location for this annexation is a 607-acre unincorporated tract abutting the former NWS Concord and the City of Pittsburg. The City of Pittsburg proposes to annex the land and amend part of their pre-zoning designations. The proposed development would include a maximum build-out of 1,500 single family units. A notice of preparation (NOP) of an EIR has been issued but the impacts of this project have not been fully analyzed. The NOP acknowledged that there could be adverse impacts to air quality during construction, and there could be conflicts with the locally adopted Habitat Conservation Plan (City of Pittsburg 2014). As of January, 2017, this project was classified as still in the permitting process and not yet approved (City of Pittsburg 2017a).
- **Bailey Estates Subdivision:** This subdivision would include 249 single-family homes on 103.5 acres of an undeveloped 265-acre tract in the City of Pittsburg adjacent to the southeast corner of the former NWS Concord. The City of Pittsburg approved the project, and the U.S. Bureau of Reclamation issued a draft finding of no significant impact in 2006 that included adding the future subdivision into the Contra Costa Water District (U.S. Bureau of Reclamation 2006). The EIR includes measures to mitigate any associated road congestion and addresses air quality degradation that may result from increased traffic (City of Pittsburg 2003). The EIR also includes mitigation to avoid or offset the loss of habitat and biological resources that would result from project development. To date, this development has not begun construction, and a future construction date is unknown (City of Pittsburg 2017a).
- **San Marco Subdivisions**: Six single- and multi-family subdivisions—the San Marco subdivisions—are being proposed or constructed near the intersection of West Leland Road and San Marco Boulevard in the City of Pittsburg, all south of State Highway 4. These developments are close to the eastern boundary of the former NWS Concord. One single-family residential development was recently built, four single- and multi-family developments are under construction, and one multi-family development is in the proposal stage. In total, the projects consist of 1,593 single-family units on 442 acres and 450 multi-family units on 19 acres. Five of the six San Marco developments were proposed by Discovery Builders, Inc. (City of Pittsburg 2017b).

5.3.2.3 Transportation Projects

Multiple transportation and transit projects are planned for the Bay Area region and include improvements to interstate and state roads, extension of BART service, and local projects that would relieve congestion. Transportation projects included in this analysis were defined in the *Transportation Impact Study: Former Naval Weapons Station Seal Beach Detachment Concord* (Kittelson & Associates, Inc., 2016). These include interchange modifications, road widening, installation of connector ramps, and the extensions of roads throughout the City of Concord and into the City of Pittsburg.

5.3.2.4 Refinery Retrofit and Expansion Projects

Several projects that would result in the expansion and retrofitting of existing oil refineries in Contra Costa County are anticipated to take place over the 25-year build-out of the City of Concord's Area Plan. Although these projects will include greater air emissions controls than past refinery development, increased volumes of criteria pollutants and hazardous air pollutants could result from this type of development, and emissions of GHGs will increase.

Impacts from the refineries and marine terminals in the closest proximity to the proposed action would likely contribute most significantly to cumulative impacts, particularly to air quality impacts. Refinery modifications and related developments within 5 miles of the Project are described below (see Figures 5-2 and 5-3):

- **Tesoro Amorco and Avon Marine Oil Terminals and Tesoro Golden Eagle Refinery.** Tesoro Refining and Marketing Company applied for and received a 30-year lease renewal in 2014 for its Tesoro Amorco Marine Oil Terminal on the Suisun Bay, 5.3 miles from the former NWS Concord. Although no change in operation was requested, an EIR was required for the marine oil terminal lease renewal because of the hazards inherent in receiving and transporting crude oil. The connected Tesoro Golden Eagle Refinery is approximately 2.5 miles from the marine terminal and 1.5 miles from the former NWS Concord (California State Lands Commission [CSLC] 2014a). The refinery occupies 2,206 acres and has a crude oil capacity of 166,000 barrels per day (Tesoro Corporation 2014). Because operations would not change, this analysis assumes that the refinery's and the terminal's emissions are included in the inventory for the SIP.

  In addition, Tesoro applied for a new 30-year lease and will be upgrading the Avon Terminal to meet the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS). The project scope will include:

  - Decommissioning of Berth 1;
  - Construction of a new berthing area, Berth 1A; repairs, retrofits, and the existing approach trestle; and
  - Demolition and removal of existing Berth 5.

  This project also includes periodic dredging activities (CSLC 2014b). In January 2015, the CSLC published the final EIR of the Tesoro Avon Marine Oil Terminal Lease Consideration, and in March 2015 approved a 30-year General Lease for 2015 through 2044 (CEQA 2017a).

- **Shell Martinez Refinery and Marine Oil Terminal.** In 2011, the Contra Costa County Department of Conservation and Development released the final EIR for the Shell Crude Tank Replacement Project, Shell Oil Company's project, to (1) replace three crude oil tanks (increasing storage capacity); (2) increase the volume of crude shipments received at the marine terminal by approximately one ship per week; and (3) implement criteria

pollutant and greenhouse gas emission reduction components (Contra Costa County 2011b). Shell Martinez Refinery occupies 1,000 acres and has a refining capacity of 165,000 barrels per day (Shell 2014). Its nearest border is 4.0 miles from the former NWS Concord.

In June 2014, Shell submitted an NOP for the Shell Greenhouse Gas Reduction Project. The primary objective is to reduce GHG emissions at the Shell Martinez Refinery. This will primarily be accomplished by the permanent shutdown of the refinery's flexicoker unit, which is an energy-intensive unit that emits significant levels of GHGs. It is anticipated that the project will reduce GHG emissions at the facility by 15%, as well as reduce sulfur dioxide emissions by 25%. Other project objectives include integrating new energy-efficiency equipment and reconfiguring and modifying existing processing units to enable the refinery to process lighter crude oil. The project will not increase the refinery's total production capacity or increase its capacity to refine heavy crude. Also, it would not add the capability to receive crude oil via rail. The EIR for this project has not yet been released (CEQA 2017b).

- **WesPac Pittsburg Energy Infrastructure Project.** WesPac Energy–Pittsburg LLC (WesPac) proposes to reactivate and modernize a dormant oil storage and transfer facility at the NRG Energy, Inc. (formerly GenOn Delta, LLC), Pittsburg Generating Station in the City of Pittsburg, located approximately 4.5 miles from the former NWS Concord. The WesPac Pittsburg Energy Infrastructure Project would facilitate importation of crude or partially refined oil by rail, ship, barge, or pipeline and then distribution of the products to local refineries through existing pipelines. The proposed project consists of upgrading the marine and onshore storage terminals, installing a new rail trans-load facility and other operation facilities, and installing and repairing pipeline connectors to complete the distribution network. Construction is estimated to last 25 months, with operation of the rail facility and partially completed storage terminal beginning 12 months into construction. The project would employ up to 250 construction workers and 35 to 40 workers during operation and maintenance (WesPac Energy-Pittsburg LLC n.d.). In 2013, the City of Pittsburg, the project's lead agency, decided that the environmental analysis required additional information and a second recirculation of the Draft EIR would be required. In early 2015, WesPac requested a modification to the project description that would exclude any rail activity associated with the project. The City of Pittsburg maintained that this new 2015 proposal would still require a second recirculation of the Draft EIR. WesPac released the NOP of a Second Recirculated Draft EIR to analyze the 2015 modified project proposal in July 1, 2015, and comments were accepted through August 7, 2015. The City of Pittsburg is currently working with the project consultant on preparation of the Second Recirculated Draft EIR (City of Pittsburg 2017c).
- **Air Products Hydrogen and Refinery Fuel Gas Pipeline.** To make cleaner-burning fuels, Air Products and Chemicals, Inc., is planning to construct and install a 2.6-mile pipeline that consists of two 8-inch-diameter pipes for movement of hydrogen and refinery fuel gas between the Tesoro Golden Eagle Refinery and Shell Martinez Refinery. The pipeline, referred to as the Local Area Pipeline Network Project**,** the is proposed to be located on various parcels and ultimately connect to existing Air Products and Chemicals, Inc., hydrogen plants. Both hydrogen and refinery gas fuel pipelines would be placed within the same trench using open-cut trenching, conventional boring, and horizontal drilling techniques. The FEIR was certified in March 2011 (Contra Costa County 2011a). As of August 2015, the construction schedule for the pipeline was yet to be determined and is still unknown (City of Benicia 2015).

5.3.2.5 Natural Resources Preservation, Restoration, and Enhancement Projects

Several projects that would preserve, restore, or enhance regional natural resources would take place during the 25-year build-out period for the City of Concord's Area Plan. These include the implementation of the Black Diamond Mines Regional Preserve expansion, approximately three miles east-southeast of the former NWS Concord, and the implementation of the Bay Delta Conservation Plan. The Bay Delta Conservation Plan includes a conservation strategy for the Sacramento-San Joaquin Delta, a large area located east of San Francisco Bay and south of Sacramento; it includes the municipalities of Pittsburg, Isleton, Brenton, and others (Bay Delta Conservation Plan 2014). These projects will provide regional environmental benefits, such as the provision and protection of parklands and open space, and will address impacts to wildlife and wetland resources.

In addition, the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCCHCP/NCCP) is intended to provide a framework to protect natural resources in eastern Contra Costa County and improve the environmental permitting process for impacts on endangered species (East Contra Costa County Habitat Conservancy 2006; USFWS 2006). Since this plan covers the eastern portion of Contra Costa County, the City of Concord and the former NWS Concord are not included, but the area immediately east of the former NWS Concord is included. This plan is intended to protect many of the same species that are found on the former NWS Concord. As of December 31, 2015, the end of the last published reporting period, 29 properties had been acquired for the ECCCHCP/NCCP preserve system, which now totals more than 12,280 acres and is planned to reach 30,300 acres by 2037. The additional land to be acquired would connect a number of parks and preserves within Contra Costa County, including Mount Diablo State Park. All acquisitions to date have been completed in partnership with the EBRPD, which is expected to be a primary landowner and land manager of the preserve system (East Contra Costa County Habitat Conservancy 2016).

5.4 Cumulative Effects Analysis

To assess cumulative effects, this section evaluates the extent to which the proposed action could, in combination with other projects, contribute to a cumulatively significant impact.

5.4.1 Methodology

The initial step is the identification of the resources to be considered in the analysis, which are those resources that would be positively or adversely impacted, despite mitigation, by the proposed action. The analysis also includes resources currently in poor or declining health, if project impacts are relatively minor. Per CEQ guidance, if a proposed action would not cause either a direct or indirect effect on a particular resource, a related cumulative impact is not required to be evaluated. The analysis of cumulative impacts in this section therefore does not include a discussion of impacts that were found to have no effect on the resource, as presented in Chapter 4. The resource area impacts resulting from the proposed action are identified in Table 5-2.

Effects of a particular action or group of actions must meet the following criteria to be considered a cumulative impact:

- The effects must be from several similar actions that would occur in the same geographic area;
- The effects would not be localized (i.e., they could contribute to effects of an action in a different location);
- The effects on a particular resource would be similar (i.e., the same specific element of a resource would be affected); and
- The cumulative effects would be identified by other analyses in the area as cumulative.

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Land Use				
Potential incompatibility of new land uses on-site with existing character of adjacent land uses.	No	No	No	No
Potential conflict of new land uses on-site with existing land use plans or policies	No	Yes	Yes	No, other development projects would be required to be consistent with land use plans and policies
Socioeconomics				
Economy, employment, and income	Yes; beneficial	Yes; beneficial	No	Yes
Population	No	No	No	No
Housing and commercial property	No	No	No	No
Taxes and revenues	Yes; beneficial	Yes; beneficial	No	Unlikely because increased tax revenues would be accompanied by increased expenditures
Environmental Justice	No	No	No	No
Air Quality				
Planning Thresholds	No	No	No	No
Criteria Air Pollutants	Yes	Yes	No	Yes, the air basin is classified non-attainment for Ozone, PM_{10} and $PM_{2.5}$, and both Alternatives 1 and 2 would contribute emissions that exceed significance thresholds
Protection of Sensitive Receptors	No, with implementation of the Area Plan (development restrictions)	No, with implementation of the Area Plan (development restrictions)	No	No, with implementation of development restrictions
Nuisance Odors	No	No	No	No
GHG Emissions	No, with implementation of the Area Plan	No, with implementation of the Area Plan	No	No

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Biological Resources				
Grassland habitat	No	No	No	No
Coyote Brush Scrub/Coastal Sage Scrub	No	No	No	No
Oak Woodland/Savannah Habitat and Heritage Trees	No, with implementation of the Area Plan and mitigation	No, with implementation of the Area Plan and mitigation	No	No
Riparian Woodlands	No, with implementation of the Area Plan and mitigation	No, with implementation of the Area Plan and mitigation	No	No
Wetland and non-wetland waters	No, with implementation of the Area Plan and mitigation	No, with implementation of the Area Plan and mitigation	No	Potentially, because there will be an irreversible loss of specific wetlands
Ruderal/Urban	No	No	No	No
Orchard and Plantation Habitat	No	No	No	No
Fish and Wildlife without Special Status	No, with implementation of the Area Plan	No, with implementation of the Area Plan	No	No
California Red-Legged Frog (Federally Threatened)	No, with implementation of the Area Plan and mitigation	No, with implementation of the Area Plan and mitigation	No	Yes
California Tiger Salamander (Federally Threatened)	No, with implementation of the Area Plan and mitigation	No, with implementation of the Area Plan and mitigation	No	Yes
Alameda Whipsnake (State Threatened)	No, with implementation of the Area Plan and mitigation	No, with implementation of the Area Plan and mitigation	No	No, because no Alameda whipsnakes have been documented on-site

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Bald and Golden Eagle	No, with implementation of the Area Plan and codes and regulations	No, with implementation of the Area Plan and codes and regulations	No	No
Cultural Resources				
Non-NRHP-Eligible Archaeological Resources	No, with implementation of the Area Plan	No, with implementation of the Area Plan	No	No, impacts will be mitigated through implementation of the Area Plan
Non-NRHP-Eligible Architectural or Built Resources	No, with implementation of the Area Plan	No, with implementation of the Area Plan	No	No, impacts will be mitigated through implementation of the Area Plan
Native American Resources	No	No	No	No
NRHP-Eligible Archaeological Resources	No, with implementation of the Area Plan and mitigation	No, with implementation of the Area Plan and mitigation	No	No, impacts will be mitigated through implementation of the Area Plan and compliance with Section 106
NRHP-Listed or Eligible Historic Properties	No, with implementation of the Area Plan and mitigation	No, with implementation of the Area Plan and mitigation	No	No, impacts will be mitigated through implementation of the Area Plan and compliance with Section 106
Topography, Geology, and Soils				
Alteration of topography	No	No	No	No
Seismically Induced Ground Shaking and Associated Ground Failure	No, with implementation of the Area Plan and building codes	No, with implementation of the Area Plan and building codes	No	No, all other new structures in the area would have to comply with similar building codes
Seismically Induced Landslides or Slope Failures	No	No	No	No

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Surface Fault Rupture	No, with implementation of the Area Plan and building codes	No, with implementation of the Area Plan and building codes	No	No, all other new structures in the area would have to comply with similar building codes
Erosion and Loss of Topsoil	No, with implementation of the Area Plan and SWPP	No, with implementation of the Area Plan and SWPP	No	No, all other new projects in the area would have to comply with a SWPP.
Hazards and Hazardous Substances				
Environmental Restoration Program Sites	No significant impacts	No significant impacts	No	No significant impacts were identified for the proposed action; however, residual contamination or waste could contribute to potential cumulative impacts. In addition, hazardous materials used during construction or operations of Alternative 1 or 2 or hazardous waste generated could contribute to potential cumulative impacts.
Solid Waste Management Unit Sites	No significant impacts	No significant impacts	No	
Radiological Sites	No significant impacts	No significant impacts	No	
Hazardous Waste	No significant impacts	No significant impacts	No	
Underground Storage Tanks	No significant impacts	No significant impacts	No	
Aboveground Storage Tanks	No significant impacts	No significant impacts	No	
Asbestos	No significant impacts	No significant impacts	No	
Lead-based Paint	No significant impacts	No significant impacts	No	
PCBs	No significant impacts	No significant impacts	No	
Radioactive Materials	No significant impacts	No significant impacts	No	

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Noise				
Construction-related Noise	No, with implementation of the Area Plan	No, with implementation of the Area Plan	No	No, because noise and vibration impacts are localized, and new projects would have to comply with City of Concord General Plan thresholds
Operation-related Noise	No, with implementation of the Area Plan	No, with implementation of the Area Plan	No	No, because noise and vibration impacts are localized, and new projects would have to comply with City of Concord General Plan thresholds
Vibration	No, with implementation of the Area Plan	No, with implementation of the Area Plan	No	No, because noise and vibration impacts are localized, and new projects would have to comply with City of Concord General Plan thresholds
Public Services				
Educational Facilities	No	No	No	No, growth will be staggered, and facilities will be constructed as part of the Area Plan
Police Protection Services	No	No	No	No, growth will be staggered, and facilities will be constructed as part of the Area Plan
Fire Protection and EMS	No	No	No	No, growth will be staggered, and facilities will be constructed as part of the Area Plan
Health Care Facilities	No	No	No	No, growth will be staggered, and facilities will be constructed as part of the Area Plan
Open Space, Parks, and Recreation areas	Beneficial	Beneficial	No	Yes, a beneficial impact because the conservation areas will provide connectivity to other open space

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Transportation, Traffic, and Circulation				
Intersection Level of Service: • Int 1 Port Chicago Highway/Panoramic Drive • Int 18 Willow Pass Road/Evora Road (West) • Int 19 Willow Pass Road/SR 4 WB ramps • Int 20 Willow Pass Road/SR 4 EB ramps • Int 21 Willow Pass Road/Avila Road • Int 22 Willow Pass Road/Evora Road (East)—SR 4 WB off R-ramp • Int 23 San Marco Boulevard—Willow Pass Road/SR 4 EB ramps • Int 24 San Marco Boulevard/W Leland Road • Int 26 Bailey Road/SR 4 EB ramps—BART access • Int 27 Railroad Avenue/W Leland Road • Int 28 Kirker Pass Road/James Donlon Boulevard	Yes	Yes	Yes	Yes
Roadway Level of Service: • Port Chicago Highway	Yes	Yes	Yes	Yes
Freeway Segment Level of Service: • FS 10 SR 4 e/o Willow Pass Rd • FS 11 SR 4 e/o San Marco Blvd	Yes	Yes	Yes	Yes

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Freeway Ramp Level of Service: • FR 10 SR 4: Port Chicago Hwy WB on-ramp • FR 13 SR 4: Willow Pass Rd WB off-ramp • FR 14 SR 4: San Marco Blvd EB off-ramp • FR 15 SR 4: SB San Marco Blvd WB on-ramp • FR 16 SR 4: NB San Marco Blvd WB on-ramp • FR 17 SR 4: NB San Marco Blvd EB on-ramp • FR 18 SR 4: San Marco Blvd WB off-ramp • FR 19 SR 4: SB Bailey Rd EB off-ramp • FR 20 SR 4: Bailey Rd WB on-ramp • FR 21 SR 4: Railroad Ave WB on-ramp	Yes	Yes	Yes	Yes
Utilities and Infrastructure				
Water Supply and Demand	No, with compliance with the General Plan, Area Plan, municipal code, and Joint NPDES Permit	No, with compliance with the General Plan, Area Plan, municipal code, and Joint NPDES Permit	No	No, all other similar projects would have to comply with the Concord General Plan, municipal code, and other relevant regulations for utilities and infrastructure
Water Treatment and Distribution				
Recycled Water Distribution System				
Stormwater and Collection Systems				
Sanitary Collection and Treatment Systems				
Solid Waste and Recycling Management	No	No	No	
Electricity	No, with compliance with the Area Plan	No, with compliance with the Area Plan	No	

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Telecommunication services	No, with compliance with the Area Plan	No, with compliance with the Area Plan	No	
Visual Resources and Aesthetics				
Impacts on Scenic Quality of KOPs: KOP 1: Salvio Street and Mt Diablo Street	No	No	No	No. Although there would be visual impacts, these will be largely mitigated. Most of the large-scale planned development in the area would be in the City of Pittsburg and not visible from the KOPs
KOP 2: Concord High School	No, with compliance with the Area Plan	No, with compliance with the Area Plan	No	
KOP 3: SR 4	No, with compliance with the Area Plan	No, with compliance with the Area Plan	No	
KOP 4: Bailey Road	No, with compliance with the Area Plan	No, with compliance with the Area Plan	No	
KOP 5: Panoramic Drive	No, with compliance with the Area Plan	No, with compliance with the Area Plan	No	
KOP 6: Beechwood Drive	No, with compliance with the Area Plan	No, with compliance with the Area Plan	No	
Impacts to Views of the Los Medanos Hills, Mount Diablo, and Open Space	No, with compliance with the Area Plan	No, with compliance with the Area Plan	No	
Water Resources				
Surface Water	No, with implementation of the Area Plan	No, with implementation of the Area Plan	No	Potentially, because there will be an irreversible loss of specific streams
Wetlands	No, with implementation of the Area Plan and mitigation	No, with implementation of the Area Plan and mitigation	No	Potentially, because there will be an irreversible loss of specific wetlands

Table 5-2 Direct or Indirect Impacts for Each Resource Area and the Likelihood that They Would Contribute to Cumulative Impacts

Resource Topic Area	Impacts: Alternative 1	Impacts: Alternative 2	Impacts: No Action	Likely to Contribute to a Significant Cumulative Impact?
Groundwater	No	No	No	No
Water Quality	No, with implementation of the Area Plan and mitigation (groundwater)	No, with implementation of the Area Plan and mitigation (groundwater)	No	No

The purpose of the cumulative impact analysis is to determine whether the direct, indirect, and contributed impacts of the proposed action on nearby resources, ecosystems, and human communities would result in a cumulative impact. For any adverse cumulative impacts, it must be determined whether the proposed action's contribution to the cumulative impact would be significant (if not, the cumulative impact would be minor). To determine whether a proposed action's contribution would be cumulatively significant, several factors must be considered: the absolute size of the contribution; the relative size of the contribution; the comparative size of the other contributors; the effect of the contribution, or the effect combined with other contributors, on the environment; and whether the impact could be mitigated if this type of contribution were not mitigated.

As part of this analysis, this section identifies resources that will not be affected by cumulative impacts. For instances in which the analysis presented in Chapter 4, Environmental Consequences, determined that the proposed action would result in no effect, the effect could be fully mitigated, or the effect was so localized that it could not contribute to cumulative effects, the resource area discussed is not carried forward for analysis in this section. In addition, resource areas that could be affected by the proposed action but do not have the potential to be affected by a significant cumulative effect are not carried forward for further analysis (see Table 5-2). Based on the analysis shown in Table 5-2, the following resource areas have not been carried forward for a more detailed analysis:

- Land Use
- Cultural Resources
- Topography, Geology, and Soils
- Noise
- Utilities and Infrastructure
- Visual Resources and Aesthetics

5.4.2 Cumulative Effects by Resource Area

The following resource areas were identified for further or more detailed analysis of potential cumulative impacts:

- Socioeconomics
- Air Quality and Greenhouse Gases
- Biological Resources
- Transportation, Traffic, and Circulation
- Hazards and Hazardous Substances
- Public Services
- Water Resources

Analysis of potential cumulative impacts to these resource areas is presented below. For each of the discussions below, the geographic study area and timeframe are identified as well as impacts. Past and existing conditions relevant to the analysis are summarized, and reasonably foreseeable projects that could contribute to cumulative impacts are specified.

5.4.2.1 Socioeconomics

Two areas of the socioeconomic impact analysis described in Section 4.3 had significant impacts to:

- The economy, employment, and income; and
- Taxes and revenue.

All others had minor or no impacts. While increased taxes and revenues from the implementation of Alternatives 1 and 2 would be a beneficial impact, these would be accompanied by increased expenditures. As a result, the increased taxes and revenues would contribute little to cumulative impacts and are therefore not further discussed. This cumulative analysis focuses on impacts on the economy, employment, and income.

Study Area and Timeframe

The cumulative study area for the analysis of cumulative socioeconomic impacts is the municipal jurisdictions within Contra Costa County and the unincorporated portion of Contra Costa County. These jurisdictions were selected because they are the areas where the greatest cumulative effects, adverse or beneficial, would be realized. The timeframe for cumulative effects related to socioeconomics would extend to full build-out of the project, which is anticipated to be completed by 2040, because cumulative socioeconomic effects could occur both during construction and once residences are occupied, schools filled, and commercial space utilized.

Past and Existing Conditions

The average unemployment rate in the City of Concord decreased from 8.1 percent of the labor force in 2013 to 6.7 percent in 2015. During the same time period, unemployment decreased in Contra Costa County from 7.5 percent to 5.0 percent. Total revenues for the FY ending June 30, 2016, were $115.6 million and $2.0 billion for the City of Concord and Contra Costa County, respectively.

Reasonably Foreseeable Projects

Although most of the reasonably foreseeable projects identified earlier in this chapter could contribute positively or negatively to the economy of the City of Concord or Contra Costa County, the reasonably foreseeable projects that could contribute over the short and long term to the cumulative economic development locally and to Contra Costa County through employment and tax revenues at or near the same scale as Alternative 1 or Alternative 2 include:

- **WesPac Pittsburg Energy Infrastructure Project.** According to the Draft EIR and a presentation to the City of Pittsburg, this project would employ a maximum of 295 construction workers during a three-year period, would have a total expenditure of $200 million, and would generate 2,950 indirect jobs during the construction period. During operations, 40 full-time employees would operate the facility, thus generating 280 to 400 indirect jobs. Estimated property tax revenue to the City of Pittsburg would be $350,000; a tidelands lease to the City of Pittsburg would generate $450,000; and annual operating expenses of $5,000,000 would be spent locally and regionally (City of Pittsburg 2013a; WesPac Energy-Pittsburg LLC n.d.). In early 2015, WesPac requested a modification to the project description that would exclude any rail activity associated with the project. The City of Pittsburg is currently working with the project consultant on preparation of the Second Recirculated Draft EIR (City of Pittsburg 2017c).
- **Multiple Residential, Commercial, and Light Industrial Development Projects.** As presented in Table 5-1, at least 99 residential, commercial, and light industrial projects are planned within or near the City of Concord or in the surrounding cities. The largest

residential development is proposed in the City of Pittsburg and the largest commercial development is proposed in Walnut Creek. Each of these projects would generate construction employment in the short term and employment as well as tax revenue in the long term.

- **Modernization and Repair of Piers 2 and 3 at MOTCO.** Repairs to Pier 3 are complete. According to the Final EIS for the Modernization and Repair of Piers 2 and 3, construction of Pier 2 would take approximately 31 months. Demolition of Pier 2 would require 10 to 20 workers; however, at least 30 workers would be needed for construction. The short-term economic benefits were not quantified in the Final EIS, but the document states that not all materials or labor would be procured locally (U.S. Department of the Army 2015). Tax revenues were not provided in the Final EIS.

Alternative 1

As discussed in Section 4.3, the City of Concord has established a goal that 40 percent of total Area Plan construction workforce is local, with priority given to firms/workers from the City of Concord. If firms/workers are not available in the city, construction would be awarded to local firms/workers within Contra Costa County (City of Concord 2012). The estimated $6.28 billion in construction expenditures would support approximately 757 total (direct, indirect, and induced) jobs, increase total regional output by $167 million, and generate $40 million of total employee earnings in Contra Costa County annually (see Table 4.3-1). Positive long-term economic impacts would benefit the economies of the City of Concord and Contra Costa County and would continue beyond the 25-year build-out timeframe. With full build-out and the availability of 6.1 million square feet of additional commercial space for new business enterprises, reuse under Alternative 1 would directly generate up to 14,044 new jobs in Contra Costa County.

In addition to the direct jobs generated by reuse under Alternative 1, indirect and induced employment impacts are expected to occur as the increased employment and business activity at the former NWS Concord stimulates the regional economy. An estimated additional 12,493 indirect and induced jobs are expected to be generated by implementation of Alternative 1. In total, 26,537 direct, indirect, and induced jobs are expected to be created under this alternative. Based on existing estimates, Alternative 1 would provide more potential for long-term employment growth than most of the reasonably foreseeable projects. Given the size of the regional labor force and the existence of unemployment and underemployment in the region, no labor shortages should result from implementing all of Alternative 1 and the reasonably foreseeable projects concurrently.

As discussed above, other reasonably foreseeable projects would contribute short- and long-term benefits to the economies of the City of Concord, to the cities in close proximity to Concord, and to Contra Costa County; however, detailed data are sparse regarding the projects' specific economic contributions to the local and county-wide economies. However, based on the available data, Alternative 1 would have a significant positive cumulative contribution to both the local and county-wide economies through employment and tax revenues.

Alternative 2

The beneficial economic and tax impacts of Alternative 2 would be similar to those of Alternative 1; thus, Alternative 2 would have a cumulatively significant positive contribution to both the local and county-wide economies and tax revenues.

5.4.2.2 Air Quality and Greenhouse Gases

The air quality analysis conducted in Section 4.4 identifies significant adverse impacts for Alternative 1 and 2 associated with annual and daily emissions of criteria pollutants.

The BAAQMD is in non-attainment with the NAAQS for ozone and $PM_{2.5}$ and with the CAAQS for ozone, PM_{10}, and $PM_{2.5}$. This non-attainment, in and of itself, represents a cumulatively significant impact. This analysis will examine the contributions of each alternative and other reasonably foreseeable projects in the vicinity.

The potential effects of climate change and GHG emissions are, by nature, global and cumulative impacts—therefore cumulative impacts have already been discussed in Chapter 4. While individual sources of GHG emissions are not large enough to have an appreciable effect on climate change, the global accumulation of GHG emissions is resulting in global and local impacts on the climate. The per capita levels of GHG emissions as described in Section 4.4 would be consistent with state and local goals to reduce GHG emissions. The Area Plan features new, sustainable development, and the CAP (i.e., Book 3 of the Area Plan) specifically focuses on reducing GHG emissions and climate change mitigation.

Global climate change threatens ecosystems, water resources, coastal regions, crop and livestock production, and human health. The continuing increase in GHG concentrations in Earth's atmosphere will likely result in a continuing increase in global annual average temperature and climate change effects. Global, federal, state, and local initiatives to reduce GHG emissions, such as this Proposed Action's CAP, are being implemented to reduce the severity of climate change impacts in the future.

This cumulative analysis focuses on criteria pollutants, as both Alternatives 1 and 2 would not result in significant impacts on HAPs and nuisance odors.

Study Area and Timeframe

The main geographic study area for evaluating cumulative impacts is the five miles surrounding the former NWS Concord. Air quality is managed at the city and regional (BAAQMD) level. While criteria pollutants have local and regional impacts, the effects of GHGs are global. The timeframe for this analysis begins with construction and extends through 2035.

Past and Existing Conditions

According to the Bay Area 2010 Clean Air Plan, outdoor air in the Bay Area is cleaner than it was 40 years ago. Monitoring data show ozone (O_3), CO, SO_2, NO_2, lead, and PM concentrations have been reduced by more than half in the Bay Area since 1970, when the CAA was enacted (BAAQMD 2010). The current air quality in the City of Concord not only reflects climatic and meteorological conditions as well as the level of development that has occurred over the past 50 to 60 years in the Bay Area, traffic and commuting patterns, and urban and industrial expansion, but also actions taken to reduce emissions.

The Bay Area 2010 Clean Air Plan is a multi-pollutant plan that provides a control strategy to reduce ozone, PM, TACs, and GHGs in a single, integrated plan and establishes emission-control measures to be adopted or implemented. This plan lays the groundwork for the Bay Area Sustainable Communities Strategy as a means, ultimately, to reduce GHGs. The plan proposes control strategies for stationary and mobile sources, and sources from transportation, land use and local impact; and sources related to energy and climate (BAAQMD 2010). In order to meet state GHG-reduction goals, the City of Concord established a threshold of significance for the Area Plan at full build-out of 2.8 metrics tons CO_{2e} per capita. In January 2017, the draft 2017 Clean Air Plan was released for public review (BAAQMD 2017).

Reasonably Foreseeable Projects

Reasonably foreseeable projects that could, in conjunction with the proposed action, contribute to cumulatively significant impacts on air quality include residential and mixed-use development; expansion or modification of petroleum refineries; and other DOD activities. Each is described below.

Residential and mixed-use development: Increased vehicle emissions associated with residential and commercial developments would likely have the largest impact on air quality. Construction impacts would be temporary, although cumulative construction impacts could be large if the residential and mixed-use development construction occurred concurrently with the construction at the former NWS Concord site and was also in close proximity to any of the proposed or any future, but currently unforeseen, development. Figure 5-1 shows proposed, approved, and underway projects within one mile of the Project site.

The Faria/Southwest Hills Annexation would abut the eastern boundary of the former NWS Concord site. According to the CEQA Initial Study for this project, the proposed annexation and future development on the site would be subject to the requirements of the Resource Conservation Element of the Pittsburg General Plan, which contains goals and policies designed to achieve the goals of all applicable air quality plans. Although the project is still in the planning process and not yet fully approved, the allowed units within the annexation could potentially conflict with or obstruct implementation of the applicable air quality plan or air quality standards, and impacts would be considered potentially significant (City of Pittsburg 2014, 2017a).

Expansion or modification of petroleum refineries: Tesoro Marine Oil Terminal (approximately 5 miles from the former NWS Concord) and Tesoro Golden Eagle Refinery (approximately 2 miles from the former NWS Concord) operate in the City of Martinez, abutting the Suisun Bay. In 2014, leases were granted for the Tesoro Amorco and Avon Marine Terminals. An upgrade of several berths was approved for the Avon Marine Terminal in 2015 (CEQA 2017a).

The Shell Martinez Refinery and Marine Oil Terminal occupies approximately 1,000 acres and is about 4 miles from the former NWS Concord. Contra Costa County's Department of Conservation and Development issued an EIR in 2011 for Shell Oil Company's project to (1) replace three crude oil tanks (increasing storage capacity); (2) increase the volume of crude shipments received at the marine terminal by approximately one ship per week; and (3) implement criteria pollutant and GHG emission reduction components at the Shell Martinez Refinery (Contra Costa County 2011b). In addition, a hydrogen and refinery fuel gas pipeline (the Local Area Pipeline Network Project) has been proposed between this location and the Tesoro Golden Eagle Refinery; the final EIR was issued in 2011. In 2014, Shell submitted an NOP for the Shell Greenhouse Gas Reduction Project to reduce GHG and sulfur dioxide emissions at the Shell Martinez Refinery; the EIR for this project has not yet been released (CEQA 2017b).

The largest new project proposed for the area is the WesPac Pittsburg Energy Infrastructure Project in Pittsburg. This project would involve reactivating and modernizing a dormant oil storage and transfer facility at the NRG Energy, Inc. (formerly GenOn Delta, LLC), Pittsburg Generating Station in Pittsburg, located approximately 4.5 miles from the former NWS Concord. As discussed in Section 5.3.2.4, construction is estimated to occur in two overlapping phases, for a total of 25 months (City of Pittsburg 2013a). The 2013 Recirculated Draft EIR estimated construction and operational emissions above significance thresholds (City of Pittsburg 2013b). The City of Pittsburg is currently working with the project consultant on preparation of the Second Recirculated Draft EIR (City of Pittsburg 2017c).

DOD Activity: Another industrial project in the area is the Modernization and Repair of Piers 2 and 3 at MOTCO. Repairs to Pier 3 are complete. According to the Final EIS, Pier 2 would be demolished and re-built between 2016 and 2018. According to the Final EIS, construction and vehicle emissions would not exceed *de minimis* thresholds during the construction period. Operational air emissions after construction is completed are expected to be lower than current levels (U.S. Department of the Army 2015).

Criteria Pollutants

Alternative 1. As discussed in Section 3.4, the BAAQMD is in non-attainment with NAAQS for ozone and $PM_{2.5}$ and in non-attainment with CAAQS for ozone, PM_{10}, and $PM_{2.5}$. This status reflects past development and current emissions regionally. Degradation of regional air quality represents a cumulative air impact, and the non-attainment status for several pollutants signifies that there are already cumulatively significant impacts to regional air quality.

As discussed in Section 4.4, construction of the Area Plan under Alternative 1 would occur over a build-out period of 25 years. Daily and annual VOC, NO_x, PM_{10}, and $PM_{2.5}$ emissions would exceed the significance thresholds in some years (see Tables 4.4-4 and 4.4-5). For operations, estimated annual criteria pollutant emissions (VOCs, NO_x, PM_{10}, $PM_{2.5}$, and CO) after full build-out are estimated to exceed daily and annual significance thresholds.

Emissions from residential and commercial development have been considered in the Area Plan, which was incorporated into the city's General Plan with its adoption in 2012. During the planning effort that resulted in the development of the Area Plan, the city made a concerted effort at all stages of the planning and environmental analysis to design and refine the Area Plan to avoid or minimize potential effects on air quality and to reduce GHG emissions. Cumulative residential and commercial expansion in the region is factored into the projections used to develop the local and regional air quality planning for the Bay Area Clean Air Plan and the SIPs for criteria pollutants, so these sources have been accounted for. However, not all industrial development is included.

Table 5-3 summarizes the anticipated impacts to air quality from the large-scale reasonably foreseeable projects that are within five miles of the former NWS Concord.

Table 5-3 Air Emissions Sources within 5 Miles of the Former NWS Concord

Project or Facility	Emissions
Air Products Hydrogen and Refinery Fuel Gas Pipeline	Daily construction emissions of $PM_{2.5}$ and PM_{10} could exceed significance thresholds. Construction would be for 4 months (Contra Costa County 2009). Increased operating emissions would be subject to air quality permitting requirements, but could exceed annual significance thresholds and contribute to exceedances of the NAAQS and CAAQS
Tesoro Amorco Marine Oil Terminal Lease Consideration	No changes to existing operations.
Tesoro Avon Marine Oil Terminal Lease Consideration	The final EIR was issued in January 2015. Emissions from construction and operation activities, including from the new berth, were evaluated and were found to be less than BAAQMD Thresholds of Significance (CSLC 2015).
Shell Martinez Refinery and Marine Oil Terminal: Shell Crude Oil Tank Replacement Project	Daily construction and operational emissions would be under BAAQMD Thresholds of Significance (Contra Costa County 2011b).
Shell Martinez Refinery and Marine Oil Terminal	Shell submitted an NOP for the Shell Greenhouse Gas Reduction Project in June 2014, which proposes to shut down the refinery's flexicoker unit, integrate energy-efficiency equipment, and modify processing units to handle lighter crude oil The EIR has not been released.

Table 5-3 Air Emissions Sources within 5 Miles of the Former NWS Concord

Project or Facility	Emissions
WesPac Pittsburg Energy Infrastructure Project	Anticipated exceedances of daily NO_x and precursor volatile organic compound thresholds (City of Pittsburg 2013b). These estimates of emissions have been called into question by the Attorney General of the State of California's Department of Justice, so they may be updated in the next version of the EIR (Harris 2014).
MOTCO Pier Modernization	No anticipated exceedances of *de minimis* thresholds during construction (U.S. Department of the Army 2015).

Several projects listed above will begin before construction of the proposed action. However, concurrent construction could potentially occur during 2018 or later, depending on construction schedules. Several projects may also contribute to cumulative ongoing operational emission increases.

The BAAQMD specifies that a project's contribution to cumulative impacts should be considered significant if the project individually causes significant impacts by exceeding the BAAQMD quantitative thresholds. Because the project's individual air quality impacts would be significant, the project's contribution to any cumulative impact would also be significant.

Individually, some of the reasonably foreseeable projects would have potentially significant contributions to air quality degradation associated with criteria pollutants. The concurrent construction or the operation of Alternative 1 and some or all of the reasonably foreseeably projects could during certain periods cause significant exceedances of BAAQMD daily and annual significance thresholds for certain pollutants. Based on the growth in the area and the projected timing of projects, certain projects may not comply with the SIP for specific criteria pollutants and would have to implement mitigation measures to reduce their emissions.

Alternative 2. Based on the estimates described in Section 4.2, VOC, NO_x, PM_{10}, and $PM_{2.5}$ emissions during construction under Alternative 2 would exceed the BAAQMD significance thresholds for criteria pollutants in some years, resulting in significant impacts to air quality during construction. During operations, all criteria pollutant emissions would exceed the daily and annual BAAQMD significance thresholds, resulting in significant impacts to air quality. Based on the BAAQMD guidance, Alternative 2, like Alternative 1, would result in a significant contribution to cumulative impacts associated with criteria pollutants.

The cumulative impact of reasonably foreseeably projects described for Alternative 1 could also have significant contributions to air quality degradation during certain time periods when combined with the impacts of Alterative 2.

5.4.2.3 Biological Resources

Based on the impact analysis conducted in Section 4.5, Biological Resources, the proposed action "may affect and is likely to adversely affect" two federally listed threatened and endangered species: the California red-legged frog and the California tiger salamander. Effects to these species and their habitat are examined in this section to determine whether past, present, and reasonably foreseeable activities and projects in conjunction with Alternatives 1 or 2 could result in cumulative significant effects.

Study Area and Timeframe

The selected cumulative study area coincides with the cumulative study area used for the draft BA conducted for the Concord Community Reuse Plan (H.T. Harvey and Associates 2012). The area

considered is those areas of Contra Costa County that provide similar habitat to that present at the former NWS Concord. The timeframe is the build-out period of 25 years.

Past and Existing Conditions

As described in Section 3.5.3, while approximately 508 acres of the former NWS Concord are "developed" or previously disturbed, most of the former NWS Concord is relatively undeveloped. It has eight vegetation communities: California annual grassland, coyote brush/coastal sage scrub, oak savannah/woodland, riparian woodland, wetlands and non-wetland waters (e.g. freshwater marsh; seasonal wetlands; and creeks, drainages, canals, and ponds), orchards and plantations, and a vegetated recreational area (the golf course). Approximately 155 bird species, 23 mammal species, 15 reptile species, and seven amphibian species were observed during surveys conducted between July 1998 and September 1999 (City of Concord 2010).

The City of Concord's open space areas include Lime Ridge Open Space, Los Medanos Hills, the Mount Diablo Foothills, and the area north of Mallard Reservoir that is designated Wetlands/Resource Conservation. Grassland habitats occur in the Los Medanos Hills and the Lime Ridge Open Space. Lime Ridge and the grasslands of Los Medanos Hills and the Mount Diablo Foothills are the northern end of a continuous natural habitat extending from Mount Diablo, the Black Hills, and Briones Valley. These open spaces are components of a regional wildlife movement system (City of Concord 2010).

The City of Concord has a number of creeks, principally Walnut, Pine, Galindo, and Mt. Diablo, as well as tributaries to these creeks. Although much of the extent of these creeks has been disturbed, the waterways provide aquatic and riparian habitat, providing resources and movement corridors to flora and fauna. The water bodies within the City of Concord may provide rainy season migration routes for the California tiger salamander and California red-legged frog. Riparian habitats associated with these waterbodies may provide cover for migrating or non-migrating birds and mammals (City of Concord 2010).

The EBRPD contains 114,000 acres of relatively undeveloped, natural open space parklands in Alameda and Contra Costa counties (EBRPD 2014). Parks in northern Contra Costa County include Briones Regional Park, San Pablo Regional Recreation Area, Carquinez Regional Park, and Black Diamond Mines Regional Preserve (see Figure 5-3). Additional parkland areas within Contra Costa County include Mount Diablo State Park, Marsh Creek State Historic Park, and Los Vaqueros Reservoir. Mount Diablo State Park is located south of the City of Concord, and Marsh Creek State Historic Park and Los Vaqueros Reservoir are located southeast of the cities of Pittsburg and Antioch. Within these park areas, habitat for biological resources in the region has been preserved.

The East Contra Costa County Habitat Conservancy is responsible for implementing the ECCCHCP/NCCP. The plan covers the cities of Pittsburg, Clayton, Oakley, and Brentwood and is designed to accommodate reasonable and anticipated growth in the participating jurisdictions. The plan covers the same species found on the former NWS Concord with the exception of fish species. The conservation strategy includes preserving approximately 30,000 acres of land, preserving the habitat linkages between protected lands, and enhancing habitats for the species that are covered in the plan (East Contra Costa County Habitat Conservancy 2014; USFWS 2006).

Reasonably Foreseeable Projects

Anticipated development in Concord itself is not likely to adversely affect the California red-legged frog or California tiger salamander. Most of the reasonably foreseeable projects are small-scale residential development. The renewal of the lease at the Tesoro Amorco Marine Oil Terminal does not require any expansion. The expansion at the Tesoro Avon Marine Terminal, construction at the Phillips 66 Rodeo refinery, modifications to the Richmond Refinery Long Warf, the PG&E Pipeline Decommissioning

Project, and the pier replacement project proposed at MOTCO could temporarily adversely impact biological resources, but the biological resources, if affected, would be marine or estuarine, not upland riparian as is found at the former NWS Concord.

The City of Pittsburg General Plan's land use map depicts low-density residential development on the eastern edge of the former NWS Concord site on previously undeveloped grasslands. Developments proposed for this area are the Faria/Southwest Hills Annexation, the Bailey Estates Development Project, and, to an extent, the San Marco Villages (see Figures 5-2 and 5-3). This area has habitat types similar to those found on the former NWS Concord site.

Part of the conservation strategy in the ECCCHCP/NCCP is to increase the availability of burrows in grasslands for the California tiger salamander and California red-legged frog and to create habitat in areas that previously did not support these species by creating ponds. Impacts to streams in the habitat conservation plan require in-kind compensatory habitat restoration. The Pittsburg Hills, an area located immediately east of the former NWS Concord, is Zone 1 in the HCP (East Contra Costa County Habitat Conservancy 2014; USFWS 2006).

According to the ECCCHCP/NCCP, there is a plan to acquire at least 1,450 acres of annual grassland within Zone 1 in order to provide a contiguous annual grassland or oak savanna to support the western pond turtle, California tiger salamander, California red-legged frog, and other species. The Faria/Southwest Hills Annexation and portions of the San Marco Villages and Vista del Mar developments are located in Subzone 1a of the habitat conservation area, and the Bailey Estates Development Project is located in Subzone 1b. The Montreux Subdivision outside the City of Pittsburg is also located in Zone 1. According to the ECCCHCP, 85 acres of annual grassland in Subzone 1a will be acquired for preservation, and this would act as linkage for California tiger salamanders between the former NWS Concord and permanently protected open space in Pittsburg. Subzone 1b is part of a connection area between the Black Diamond Mines Regional Preserve and the former NWS Concord. At the time that the ECCCHCP was written in 2006, an easement was pending for the Bailey Estates Development Project (East Contra Costa County Habitat Conservancy 2014; USFWS 2006).

The CEQA Initial Study for the proposed annexation area for the Faria/Southwest Hills Annexation concluded that the project could have a potentially significant impact on protected species and could conflict with the ECCCHCP/NCCP because the undeveloped annexation area could contain grassland habitat that could provide habitat for wildlife species, including migratory birds. As a result, the development of this project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special status species (City of Pittsburg 2014).

According to the EBRPD's Master Plan (2013a), parts of the former NWS Concord will become the Concord Hills Regional Park. The park district is also planning expansion throughout the district, including at the Black Diamond Mines Regional Preserve.

California Red-legged Frog

Alternatives 1 and 2. The California red-legged frog depends on the availability of emergent vegetation to provide refugia and a lack of aquatic predators, such as crayfish, bullfrogs, and fish, for its survival. In the 1980s, California red-legged frog tadpoles were introduced into Cistern Pond within the former NWS Concord and have since expanded their range to upper Cistern Pond and several locations along Mt. Diablo Creek. Although the species has not been recorded breeding at the Diablo Creek Golf Course, the golf course ponds provide potential breeding habitat. The former NWS Concord contains upland areas with small mammal burrows adjacent to aquatic habitat that could be utilized by this species as refugia. In

addition, grasslands within the former NWS Concord have the potential to support upland habitat for the California red-legged frog.

The USFWS determined that the implementation of Alternative 1 would result in all individual federally listed California red-legged frog throughout the entire 2,558 acre EDC Area being subject to incidental take in the form of non-lethal harm and harassment during the 35 years of phased development (USFWS 2017). A similar determination would be expected for Alternative 2. These adverse impacts would be temporary (e.g., from construction or recreational activities), permanent (e.g. from development and trails), and potentially significant. However, all documented breeding habitat on the former NWS Concord site and the majority of the documented upland and dispersal habitats (e.g., Mt. Diablo Creek) for the species would not be disturbed during construction of either alternative. Once constructed, the Central Greenway along Mt. Diablo Creek would include a 300-foot-wide riparian corridor that should improve the overall dispersal and non-breeding habitat for the species on the site.

Because the California red-legged frog is a federally listed threatened species, any development at the former NWS Concord would require conservation measures that avoid and minimize direct and indirect effects to this species. Any permanent impacts to California red-legged frog habitats will be minimized to avoid long-term population-level impacts. Conservation measures included in the BO and associated ITS for the City of Concord's Master CWA Section 404 Permit for the Concord Area Plan will address and include avoidance and minimization measures to limit the direct and indirect effects to the California red-legged frog. As described in the city's Area Plan (MMRP, Mitigation Measure Biological Resources 5), impacts on California red-legged frog habitats will be mitigated to avoid long-term impacts.

In 2001, 4.1 million acres in California were designated as critical habitat for the California red-legged frog, including areas within Contra Costa County (Foulk 2001). According to USFWS critical habitat maps for the California red-legged frog in Contra Costa County, the critical habitat areas for this species are located:

- Near Alhambra Valley Road between SR 4 and SR 24, and San Pablo Dam Road and Highway 680
- In the southwest portion of the county east of Highway 68 and west of Marsh Creek Road (USFWS 2010a and 2010b).

These areas are protected because they are within parks; therefore, regionally important critical habitat for this species is protected.

Potential breeding and dispersal habitat is found in the currently undeveloped open-space area east and southeast of the former NWS Concord site near water bodies. More specifically, several unnamed tributaries that flow east into the Contra Costa Canal from the northeast to the southeast corner of the Los Medanos Hills area have historical occurrences of this species as well as suitable habitat. In addition, suitable habitat and historical occurrences have been documented southeast of the site toward the Black Diamond Mines Regional Preserve. As a result of these habitats, the East Contra Costa County HCP/NCCP has identified the importance of the former NWS Concord site for conservation of multiple species including the California red-legged frog and the need for habitat linkages between the site and other large open-space areas such as the Black Diamond Mines Regional Preserve (East Contra Costa County Habitat Conservancy 2006 and USFWS 2006). The conservation of approximately 2,500 acres of open space on the former NWS Concord site would be a beneficial impact on the establishment of habitat linkages for this species. In addition, it would provide an incremental beneficial contribution to the cumulative habitat conservation efforts for this species identified in the ECCCHCP/NCCP and with the planned expansion of the EBRPD.

Although potential California red-legged frog habitat would be lost during the implementation of Alternatives 1 or 2 and habitat could be lost through the proposed development to the east of the former NWS Concord site, potentially cumulatively significant adverse effects to the California red-legged frog or California red-legged frog habitat would be minimized because:

- California red-legged frog critical habitat in Contra Costa County is protected;
- All future development on the former NWS Concord site would be subject to the Master CWA Section 404 permit and the associated BO and ITS, and would be required to avoid or minimize impacts to the California red-legged frog or its habitat;
- All future development east of the former NWS Concord site would have to comply with the ECCCHCP/NCCP and would likely have to implement mitigation measures similar to those included in the *Conceptual Habitat Mitigation Plan for Wetland, Aquatic, and Riparian Habitats* (H.T. Harvey and Associates 2012).

California Tiger Salamander

Alternatives 1 and 2. Alternatives 1 and 2 would result in the removal of California tiger salamander historical breeding, dispersal, and upland habitat in the Bunker City area of the former NWS Concord. California tiger salamanders breed in the southeastern portion of the site in seasonal pools or small ponds. The USFWS determined that the implementation of Alternative 1 would result in all individual federally listed California tiger salamanders throughout the entire 2,558-acre EDC Area being subject to incidental take in the form of non-lethal harm and harassment during the 35 years of phased development (USFWS 2017). The majority of the disturbance of high- and medium-quality California tiger salamander habitat is located within the conservation area, and the primary opportunity for direct mortality would be during the construction of recreational trails, picnic areas, and parking areas within this area.

Direct effects through harassment or mortality could result from increased human activity, such as traffic, in California tiger salamander habitats. The construction of roads and exclusion fencing may prevent California tiger salamanders from dispersing between breeding and upland habitat.

Because the California tiger salamander is a federally listed threatened species, any development at the former NWS Concord would require conservation measures that avoid and minimize direct and indirect effects to this species. Any permanent impacts to California tiger salamander habitats would be minimized to avoid long-term population-level impacts. Conservation measures included in the BO and associated ITS for the City of Concord's Master CWA Section 404 Permit for the Concord Area Plan will address and include avoidance and minimization measures to limit the direct and indirect effects to the California tiger salamander. As described in the city's Area Plan (MMRP, Mitigation Measure Biological Resources 6), any permanent impacts on California tiger salamander habitats will be mitigated to avoid long-term population-level impacts.

According to the City of Concord's Draft BA (City of Concord 2013c), California tiger salamanders occur in the undeveloped open space areas east and south of the former NWS Concord, where the Faria/Southwest Hill Annexation, Bailey Road Estates, and multiple San Marco subdivisions are proposed. This could result in a loss of habitat for the species. When and if these areas are developed, California tiger salamanders would be vulnerable to the human activity associated with residential development, traffic, pets, new predators, and non-native plants. Therefore, development of these projects could have adverse effects. However, these impacts have been recognized in the CEQA Initial Study for the Faria/Southwest Hills Annexation, as has the potential conflict between this project and the ECCCHCP/NCCP.

Potentially cumulatively significant adverse effects to California tiger salamanders or their habitat would be minimized because all future development east of the former NWS Concord site would have to comply with the ECCCHCP/NCCP, and developers would likely have to implement mitigation measures similar to those included in the *Conceptual Habitat Mitigation Plan for Wetland, Aquatic, and Riparian Habitats* (H.T. Harvey and Associates 2012). The conservation of the approximately 2,500 acres of open space on the former NWS Concord site would be a beneficial impact on the establishment of habitat linkages for this species. In addition, it would provide an incremental beneficial contribution to the cumulative habitat conservation efforts for this species identified in the ECCCHCP/NCCP and with the planned expansion of the EBRPD.

5.4.2.4 Transportation, Traffic, and Circulation

Potentially significant impacts would occur for intersections, roadway segments, freeway segments, and freeway ramps. All are analyzed in this cumulative analysis.

Study Area and Timeframe

For the purposes of this analysis, the study area includes the area defined in the *Transportation Impact Study: Former Naval Weapons Station Seal Beach Detachment Concord* (Kittelson & Associates, Inc. 2016). The study area for the transportation impact analysis included 28 intersections, five roadway segments, 12 freeway segments, and 21 freeway ramps from west to east throughout the City of Concord and into the City of Pittsburg. The analysis was conducted through 2040.

Methodology

The traffic analysis is based on the latest travel demand model for the CCTA. The model includes future development throughout the region. Population and socioeconomic forecasts used in the model are consistent with regional totals for growth projected by ABAG. Because the future regional development included in the model also includes traffic impacts, the No Action Alternative is used as a baseline to identify traffic impacts related to the action alternatives.

The CCTA model also includes roadway improvements that have been planned or programmed for Concord and neighboring communities and those that are part of the Concord General Plan and/or the city's Capital Improvement Program. These improvements are listed in Section 4.11.

It was also assumed that as the former NWS Concord site is developed, the on-site roadway and transit networks would be refined; however, the planned connections to existing roadways outside the project site would not be altered. Therefore, by taking into account the combination of known potential developments and background growth with the project-specific traffic volumes, cumulative impacts have already been accounted for in the impacts presented in Section 4.11. This section serves to summarize those impacts.

Alternative 1. During construction, impacts on the transportation network surrounding the property are also expected, including an increase in traffic on roadways immediately adjacent to the property; traffic delays due to slow-moving construction vehicles; and temporary road closures. These construction-related impacts would be temporary and minor, but they could contribute to cumulative traffic impacts if reasonably foreseeable or as-yet-unknown projects were to be built near the location of the construction. Since any project constructed in the City of Concord would require building permits, adherence to traffic management plans could be required to reduce and mitigate traffic impacts due to construction.

After build-out is complete, Alternative 1 is projected to have potentially significant impacts on 12 intersections, two roadway segments, four freeway segments, and 16 freeway ramps. As indicated in

Section 4.11.2, implementation of measures identified in the Climate Action Plan and the MMRP would address significant impacts to traffic. However, impacts would remain significant, and cumulative effects would also remain significant under Alternative 1.

Alternative 2. The proposed road network under Alternative 2 has the potential to create significant impacts on 13 intersections, two roadway segments, four freeway segments, and 16 freeway ramps. Transportation impacts for these locations under Alternative 2 would be similar to impacts under Alternative 1, with some additional LOS impacts.

Impacts and mitigation under Alternative 2 that would be different than those under Alternative 1 are described in Section 4.11.

5.4.2.5 Hazards and Hazardous Substances

No significant impacts were identified in Section 4.8, Hazards and Hazardous Substances; however, residual contamination or waste could contribute to potential cumulative impacts. In addition, hazardous materials used during construction or operations of Alternative 1 or 2 or hazardous waste generated could contribute to potential cumulative impacts. As a result, all of these impacts are analyzed in this cumulative analysis.

This analysis focuses on the potential cumulative contribution of Alternative 1 or 2 on the presence, use, handling, disposal, or transport of hazardous materials or waste associated with development, reuse, or other activities at properties on or near the former NWS Concord and other sites. Because the potential impacts of the proposed action for this resource area would be the same under either Alternative 1 or 2, the following discussion of potential cumulative impacts applies to either of the proposed action alternatives.

Study Area and Timeframe

Because the adverse effects of hazards and hazardous substances with the greatest impact would be localized, this cumulative study area focuses on the area immediately surrounding the former NWS Concord, including the cities of Concord, Pittsburg, and Martinez.

The timeframe for this analysis covers the time over which cleanup and transfer of the land to the City of Concord would occur.

Past and Existing Conditions and Reasonably Foreseeable Projects: ER Program Sites and other Regulatory Sites

As described in Sections 3.8 and 4.8.1, historical uses of the former NWS Concord resulted in sites and areas that have been subjected to regulatory review and remediation under various cleanup programs, consisting primarily of the Navy ER Program under CERCLA, SWMU sites under RCRA, and radiological sites under the Atomic Energy Act.

The most significant hazardous waste/materials sites near the former NWS Concord are located at the MOTCO. Hazardous materials sites at the MOTCO include the Tidal Area Landfill, R-Area Disposal Site, Kiln Site, Allied A and B Sites, Coke Pile Site, Froid and Taylor Road Site, Wood Hogger Site, K-2 Area, G-1 Area, and Litigation Area, among others. Contaminants of potential concern at these sites include petroleum constituents, heavy metals, solvents, VOCs, burn materials, wood preservatives, pesticides, PCBs, and ordnance (Navy 2005; Ecology and Environment, Inc., 1983). The Army is conducting cleanups of historical waste/materials sites at the MOTCO under its IR program (U.S. Department of the Army 2011). Presently, MOTCO is an active installation that provides terminal and distribution services for ammunition and cargo. The MOTCO is listed as an NPL site in DTSC's EnviroStor database.

Other smaller cleanup or corrective action sites within approximately 3 miles include the Central Contra Costa Sanitary District disposal area in Martinez; the Triangle PWC galvanizing Union Collier, and Camp Stoneman IR-MMRP sites in Pittsburg; the Chemical and Pigment Company site and Criterion Catalysts & Technologies site in Bay Point; the Cordis Dow Corp site in Concord; and the Clyde Pedestrian Path site in Clyde (DTSC n.d.). In addition, P66 is currently conducting petroleum cleanup and groundwater monitoring actions near the southeast corner of the Inland Area. In 2011, oil was discovered within and adjacent to Navy property, and a release was subsequently identified in the P66-owned Line 200 pipeline.

At the former NWS Concord, sites under the ER Program are in various stages of completion, depending on the site. The CERCLA investigations have been completed at many sites, which now have been recommended for no further action, and continue at others. The Navy is addressing the ER Program sites in accordance with the CERCLA process and the FFA, and under the cognizance of applicable federal and state agencies. All necessary remedial actions required by CERCLA, including the use of any prescribed ICs, will be completed to the satisfaction of the involved agencies and consistent with the intended use of the site. None of the SWMU sites (except for the four transferred to the IRP) require further investigation. For the radiological sites, the Navy is presently performing additional surveys recommended by the HRA for specific environmental media on sites with a potential for contamination.

As a result of the implementation of legally prescribed remedial actions, the use of appropriate and legally enforceable CERCLA ICs where applicable, and the expectation that the future developers or owners of the former NWS Concord property will adhere to local, state, and federal laws and regulations during construction and operation, hazards to the public or the environment from the presence, use, handling, disposal, or transport of hazardous wastes and materials associated with ER Program sites would be minimized to the extent practicable. No significant environmental impacts would result from releases of hazardous substances, pollutants, or contaminants from disposal and reuse of the former NWS Concord, relative to ER Program and other regulatory cleanup sites. Similarly, activities conducted at other properties in the cumulative study area that contain hazardous waste sites or other regulatory cleanup sites, such as the U.S. Army's MOTCO facility, which has IRP sites in various stages of cleanup, also would be required to comply with applicable laws and regulations for handling, disposal, and cleanup, which would minimize risks to the public and the environment from those activities.

Accordingly, there would be no significant cumulative impact on the environment from the presence, use, handling, disposal, or transport of hazardous materials associated with development, reuse, or other activities at properties on or near cleanup sites such as ER Program and other waste sites.

Past and Existing Conditions and Reasonably Foreseeably Projects: Hazardous Waste/Materials Management

As described in Section 4.8, reuse of the former NWS Concord property following disposal by the Navy would involve the routine use of hazardous materials and generation of hazardous waste from the construction/demolition of existing facilities and the development and operation of the new commercial, residential, industrial, recreational, and conservation land uses planned under the proposed action. Such wastes and materials would include petroleum products (gas, oil, and waste oil) and other materials often in tanks, chemicals, paints, pesticides (including herbicides), batteries, ACM, LBP, PCBs, medical waste, and radioactive materials used in business and industry.

Reasonably foreseeable projects that could, in conjunction with the proposed action, contribute to cumulatively significant impacts associated with hazardous materials/waste include:

- Residential and mixed-used development

- Expansion or modification of petroleum refineries

Each is described below.

Residential and Mixed-use Development. Construction of residential and commercial developments would require the use of limited amounts of hazardous materials and would generate some hazardous waste. Once built, residential and commercial development, in general, uses limited amounts of hazardous materials and generates small quantities of hazardous waste.

Expansion or Modification of Petroleum Refineries. Projects associated with the expansion or modification of petroleum refineries within five miles of the former NWS Concord (see Figures 5-2 and 5-3) are listed in Table 5-4.

Table 5-4 Status of Petroleum Refineries within 5 Miles of Former NWS Concord

Project	Location	Status
Air Products Hydrogen and Refinery Fuel Gas Pipeline	Concord/Martinez	New project
Tesoro Amorco Marine Oil Terminal Lease Consideration	Concord	Operating facility
Tesoro Avon Marine Oil Terminal Lease Consideration	Concord	Operating facility, but proposed upgrades to berths
Shell Martinez Marine Oil Terminal	Martinez	Operating facility, but proposed GHG and other emissions reductions
Shell Crude Oil Tank Replacement Project	Martinez	Operating facility; project replaces crude oil tanks
WesPac Pittsburg Energy Infrastructure Project	Pittsburg	New project; EIR not completed

During construction and operations, these projects would use hazardous materials and generate hazardous wastes in potentially significant quantities.

For the proposed action, compliance of the new developers, businesses, residents, and occupants with the state, local, and federal regulatory framework that is in place for managing those wastes and materials would minimize hazards to the public and the environment, and there would therefore be only minor impacts from the presence, use, handling, disposal, or transport of hazardous wastes and materials associated with construction and operational activities of the proposed action. Those impacts would not be significant. Similarly, businesses and residents in the cumulative impact study area around the former NWS Concord also would be required to use and handle hazardous materials and wastes in accordance with state, local, and federal regulations, which would minimize risks to the public and the environment from those activities.

The regulatory framework that exists for the management of such wastes and materials is described in Section 3.8.2.2. At the state and local level, the DTSC regulates hazardous waste and RCRA programs, USTs and petroleum are regulated by the RWQCB, and ASTs are regulated by CalEPA—all with additional implementation and enforcement by the CUPA. ACM and LBP are regulated primarily by AQMDs and Cal/OSHA, with the addition of the CDPH for the regulation of lead in child-occupied areas. PCBs and radioactive materials are the regulatory responsibility of the DTSC. The transportation of hazardous materials and wastes is regulated by the CHP. All of the requisite regulations were developed

to protect public and environmental health and safety. All reasonably foreseeable projects would have to adhere to the same regulatory requirements.

The proposed action is a relatively large development project. When added to the future construction and operational activities identified for the cumulative study area, substantial quantities of hazardous materials would be routinely used, and substantial quantities of hazardous waste would be generated compared to current activities in the area. However, the long build-out time for the proposed action (25 years) and the requirement for compliance with applicable laws and regulations would minimize hazards and reduce impacts.

Accordingly, there would be no significant cumulative impact on the environment from the presence, use, handling, disposal, or transport of hazardous wastes and materials associated with development, reuse, or other activities at properties in the cumulative study area.

5.4.2.6 Public Services

One element of the public services impact analysis discussed in Section 4.10 identified significant impacts: open space, parks, and recreation; all others had no significant impact. Therefore, this analysis focuses on the cumulative increase or decrease of open space, parks, and recreation land attributable to past and present conditions, Alternatives 1 and 2, and reasonably foreseeable projects.

Study Area and Timeframe

The cumulative study area includes northern Contra Costa County, including the cities of Concord, Pittsburg, Martinez, and Clayton. These cities were selected because they would directly benefit from the loss or gain of open space, parks, and recreation because of their proximity to the former NWS Concord.

The timeframe for this analysis extends to full build-out of the proposed action, which is anticipated to be completed by 2040, because this would be a timeframe in which the proposed action's contribution to open space, parks, and recreation would be finalized.

Past and Existing Conditions

Large portions of Contra Costa County, specifically in northern Contra Costa County, are preserved as parks or open space. These areas include the following regional and City of Concord resources.

Regional parks or open space:

- San Pablo Regional Recreation Area
- Carquinez Regional Strait Park
- Briones Regional Park
- Mount Diablo State Park
- Black Diamond Mines Regional Preserve

City of Concord large open spaces or parks:

- Lime Ridge Open Space and Greater Lime Ridge Open Space
- Willow Pass Community Park
- Los Medanos Hills
- Mt. Diablo Foothills

- Area north of Mallard Reservoir
- Avon-Port Chicago Marsh

Reasonably Foreseeable Projects

Reasonably foreseeable projects that would both increase and decrease the open space, park, and recreation land in the area are listed in Table 5-5 below.

Table 5-5 Proposed Projects and Additions to Open Space/Parklands

Project Name	Description of Proposed Project	Contribution to Open Space/Parks
Faria/Southwest Hills Annexation (Pittsburg)	607 Acre development with 1,500 homes[1]	Unknown
Bailey Road Estates (Pittsburg)	265 acres: 103.5 acres divided into 249 lots. 18.5-acre reservoir[2]	143 acres designated as open space[2]
Black Diamond Mines Regional Preserve (North of Mount Diablo State Park)	The EBRPD is preparing a land use plan amendment and environmental review for Black Diamond Mines Regional Preserve to incorporate and open to the public approximately 4,929 additional acres of land adjacent to the park. [3]	Expand preserve by approximately 4,929 acres[3]
San Marco Subdivision (all combined)	Approximately 639-acre development with 2,938 homes[4]	36-acre community park/ detention basin, three smaller village parks (i.e., less than 1 acre each), and a landscaped pedestrian trail[4]

1 City of Pittsburg 2014
2 U.S. Bureau of Reclamation 2006
3 EBRPD 2016, n.d.
4 City of Pittsburg 1992

Alternative 1. As discussed in Section 4.10, approximately 2,537 acres of the eastern side of the former NWS Concord is proposed as a regional park. A total of 786 acres of the former NWS Concord site would become greenways, citywide parks, and active recreational areas, resulting in the addition of approximately 24.3 acres of recreational areas per 1,000 residents on the former NWS Concord site. This ratio would exceed the City of Concord's General Plan Growth Management Policy 2.1.1, which requires new development to dedicate parkland at a ratio of 5 acres for every 1,000 residents. It would also result in an increase in the city's overall park-area-to-population ratio by increasing the area of parkland per person citywide to 9 acres per 1,000 residents. Alternative 1 would result in a long-term beneficial impact on the availability of open space and recreational services and facilities in the city.

Implementation of Alternative 1 would increase the availability of open space and parks by 3,323 acres. According to the City of Concord's General Plan (2012), a total of 10,985 acres of land within the city limits is either public/quasi-public, wetlands/resource conservation, parks, open space, or rural conservation. As a result, the cumulative total of this land use type in the City of Concord would be 14,308 acres under Alternative 1. The addition of the conservation open space land from the proposed action represents a 23-percent increase in the amount of open space available in the city.

The EBRPD has 114,000 acres of relatively undeveloped, natural, open-space parklands in Alameda and Contra Costa counties (EBRPD 2014a). According to the EBRPD's Master Plan (EBRPD 2013a), parts of

the former NWS Concord will become the Concord Hills Regional Park. The EBRPD also is planning to expand Black Diamond Mines Regional Preserve to increase the parkland by 4,929 acres (EBRPD 2016, n.d.). Based on the total acreage of parkland in the EBRPD, the portion of the former NWS Concord would provide an incremental addition of 2 percent to the parkland in the EBRPD. Proposed development in Pittsburg would decrease the available open space on the east side of the former NWS Concord, but the ECCCHCP/NCCP is seeking to establish habitat linkages between the Black Diamond Mines Regional Preserve and the former NWS Concord.

Alternative 1 would result in an incremental increase to the amount of open space, parks, and recreation land available in the City of Concord, Northern Contra Costa County, and the EBRPD, with a cumulatively significant beneficial impact on the total area of the City of Concord's open space and parks.

Alternative 2. Similar to Alternative 1, Alternative 2 would result in an addition of 786 acres of greenways, citywide parks, and active recreational areas at the former NWS Concord site. However, because Alternative 2 would also generate a larger population impact than Alternative 1, the overall ratio of greenways, citywide parks, and active recreational lands per area resident would be 18.9 acres per 1,000 residents on the former NWS Concord site. This ratio would exceed the City of Concord's policy of requiring new development to dedicate parkland at a ratio of 5 acres for every 1,000 residents. As with Alternative 1, reuse of the site in a manner consistent with Alternative 2 would result in positive long-term impacts to the provision of parkland and open space in the City of Concord.

As with Alternative 1, the increase in open space, parks, and recreation areas would significantly increase the availability of that type of land use within the City of Concord and would provide an incremental increase in the available open space and parklands within Northern Contra Costa County and the EBRPD, and a cumulatively significant beneficial impact on the total area of the City of Concord's open space and parks.

5.4.2.7 Water Resources

Because Alternatives 1 and 2 would result in the irreversible loss of specific wetlands and stream habitat, this cumulative analysis focuses on surface waters and wetlands and the cumulative impacts from past and present conditions, Alternatives 1 and 2, and the reasonably foreseeable projects on wetland and surface water bodies in the cumulative study area.

In the absence of specific data pertaining to water resources for each of the reasonably foreseeable projects listed in Tables 5-1 and 5-2, a desktop analysis was completed using USFWS wetland, stream, and riparian data, as developed for use in Google Earth.

Study Area and Timeframe

The geographic study area for evaluating cumulative impacts on water resources encompasses the Mt. Diablo Creek watershed in which the proposed action is located. This watershed extends from Clayton to the Suisun Bay. The timeframe for analysis would be the period of construction of the proposed action because that is the period under which there could be new adverse impacts as a result of the proposed action.

Past Actions and Existing Conditions

Mt. Diablo Creek is the primary surface water feature on the former NWS Concord. It was altered from its natural state in the late 1800s. From its headwaters, Mt. Diablo Creek flows northwest for 15.5 miles to its confluence with the Suisun Bay (Leidy, Becker, and Harvey 2005). Other surface water features include Willow Pass Creek and numerous drainages associated with the mid to upper slopes of the Los

Medanos Hills, which drain minimal surface flows from the adjacent foothill grasslands within the former NWS Concord during the winter rainfall period (City of Concord 2012).

Reasonably Foreseeable Projects

Reasonably foreseeable projects that could occur in the Mt. Diablo Creek watershed include the following (see Figures 5-1 and 5-2 and Table 5-1):

- Residential, commercial, and light industrial development
- MOTCO facility: pier expansion and cleanup activities at hazardous waste sites
- Tesoro Refinery and Marine Terminal: lease renewal of the Amorco Marine Terminal and expansion at the Avon Marine Terminal
- Shell Martinez Refinery and Marine Terminal: crude oil tank replacements, volume increase of crude shipments, and GHG and other emissions reduction modifications
- Air Products Hydrogen and Refinery Fuel Gas Pipeline: 2.6-mile pipeline installation between the Tesoro Golden Eagle Refinery and Shell Martinez Refinery

Alternative 1. The analysis of the proposed action indicated that although all impacts to surface waters and wetlands would be mitigated through compensation or offsets, permanent impacts to both surface waters and wetlands would occur. In summary, surface water impacts would result from stream crossings and portions of several streams would be filled because of the proposed development footprint, resulting in a total of fill of 2.43 acres of other waters (Table 4.14-1). Approximately 1.4 acres of fill would occur within the development districts, primarily in a portion of Willow Pass Creek in the Commercial Flex Development District and in an unnamed tributary to Mt. Diablo Creek, which drains the east side of the Central Neighborhoods Development District. The restoration of Mt. Diablo Creek and conservation enhancements for endangered species would result in fill impacts on 1.01 acres of other waters, but no net loss to Mt. Diablo Creek is expected. In addition, approximately 4.50 acres of wetland fill will occur as a results of project development (see Table 4.14-2). This would result from the placement of permanent fill within 4.23 acres of wetlands within the development districts; conservation enhancements for endangered species would also result in an additional 0.27 acres of wetland impacts related to the discharge of fill, but no net loss of wetlands is expected. This would result in a permanent loss of 4.23 acres of wetlands. Wetlands provide multiple hydrological functions that could be altered by their removal. Wetland functions are specific to the watershed in which they are located; therefore, the removal of wetlands as a result of multiple projects could have cumulatively significant effects.

The majority of the Mt. Diablo Creek watershed is dry, with streams flowing through it only from upland areas, but the area adjacent to the Suisun Bay contains estuarine and marine wetlands. Many of these estuarine and marine wetlands are located in protected areas, such as the Point Edith Wildlife Area, the Waterbird Regional Preserve, and Waterfront Park. According to the City of Concord General Plan, these wetlands are largely found in lands designated as public or quasi-public land with the Avon/Clyde and Tidal Area (Port Chicago). The Tidal Area includes the MOTCO facility, where some of these wetlands are located (City of Concord, Google Maps, and Wetland Mapper). According to the Final EIS for the Modernization and Repair of Piers 2 and 3 at MOTCO, up to 3,175 acres of wetlands occur on MOTCO, including 404 acres of estuarine subtidal wetlands, 2,687 acres of estuarine intertidal wetlands, and 84 acres of palustrine wetlands. MOTOC plans to modernize and repair several piers and anticipates no net loss of wetlands. MOTCO has designated a portion of these wetlands as a wetland preserve (U.S. Department of the Army 2015).

The projects at the Tesoro Avon Terminal and the Shell Martinez Refinery would be largely within their existing footprints and would be required to have no net loss of wetlands.

According to the FEIR for the project, the Air Products Hydrogen and Refinery Fuel Gas Pipeline project has committed to avoid impacts to wetlands and other waters through the implementation of BMPs and their SWPP. One alternative would use horizontal directional drilling to cross McNabney Marsh and would cross Pacheco Creek using a bridge. The project would provide compensation for temporary impacts to Waters of the U.S., including wetlands, as required by permits. Temporary impacts would be mitigated at a 2-to-1 ratio, and the mitigation area would be monitored and managed for 10 years upon agreement by the responsible agencies. Possible compensation for impacts to wetlands may be a monetary contribution to restoration efforts or enhancement of McNabney Marsh or a nearby wetland preserve (Contra Costa County 2011a).

Palustrine wetlands would be removed as a result of the proposed action. None of the identified reasonably foreseeable projects are known to occur where palustrine wetlands occur in the watershed (USFWS 2014c). Other projects could be planned within the watershed. These would have to offset or mitigate their impacts to surface waters and wetlands to comply with state- and federal-level policies of no net loss of wetlands, which require all impacts to surface waters and wetlands to be mitigated under Section 401 and 404 of the CWA. However, USACE only requires Section 404 permitting for jurisdictional wetlands, which are defined as having a significant nexus to navigable waters; hence, the state may assert jurisdiction over some water bodies not subject to Section 404/USACE permit jurisdiction.

The proposed action would have direct impacts on the wetlands and surface waters removed or altered, but the amount of wetlands and streams removed is small in comparison to all of the wetlands in the Mt. Diablo Creek watershed, and these removals will be offset. Potentially significant cumulative impacts with respect to wetlands and surface waters in the future would be required to be avoided or mitigated in order to comply with state and federal policies on no net loss of wetlands. Therefore, no cumulatively significant impacts to water resources would occur.

Alternative 2. The analysis of Alternative 2 indicates that although all impacts to surface waters and wetlands would be minimized or mitigated through compensation or offsets, permanent impacts to both surface waters and wetlands would occur. In summary, approximately 2.43 acres of fill in other waters, with 1 acre of fill considered temporary for the restoration activities in Mt. Diablo Creek, resulting in a net loss to 1.43 acres of other waters (see Table 4.14-3). In addition, approximately 4.85 acres of fill will occur to jurisdictional wetlands under Alternative 2 (see Table 4.14-4).

The cumulative impacts of Alternative 2 along with the reasonably foreseeable projects would be the same as those discussed above for Alternative 1. Potentially significant cumulative impacts with respect to surface waters and wetlands would be required to be avoided or mitigated in order to comply with state and federal policies on no net loss of wetlands. Therefore, no cumulatively significant impacts to water resources would occur.

This page intentionally left blank.

6 Other Considerations Required by NEPA

6.1 Consistency with Other Federal, State, and Local Plans, Policies, and Regulations

Disposal of the surplus property at the former NWS Concord would comply with existing federal regulations and state and local policies and programs. As discussed in Chapter 1, this EIS was prepared in accordance with the requirements of NEPA, the CEQ regulations implementing NEPA (40 CFR 1500-1508), and Navy procedures for implementing NEPA (32 CFR 775). Other federal laws, regulations, and EOs with which the proposed action must demonstrate compliance are discussed below, followed by a discussion of pertinent local and state policies and controls.

6.1.1 Federal Acts, Executive Orders, Policies, and Plans

NEPA

Compliance with NEPA is discussed above and in detail in Section 1.2, The NEPA Process.

Clean Air Act and General Conformity Rule

Compliance with the CAA and General Conformity Rule are discussed in Sections 3.4 and 4.4, Air Quality and Greenhouse Gases. Additionally, the reuse compliance discussion for the former installation property is found in Section 4.4, Air Quality and Greenhouse Gases, and a regional overview related to GHG emissions is presented in Chapter 5.

Executive Order 12898

Compliance with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, is discussed in Sections 3.3 and 4.3, Socioeconomics and Environmental Justice.

Executive Order 13045

Compliance with EO 13045, Environmental Health Risks and Safety Risks to Children, is discussed in Sections 3.3 and 4.3, Socioeconomics and Environmental Justice.

Endangered Species Act

Compliance with the ESA is discussed in Sections 3.5.1.1 and 3.5.5. Additionally, Sections 4.5.1.3 and 4.5.2.3 provide an effects determination for implementation of Alternatives 1 and 2, respectively.

Migratory Bird Treaty Act

The MBTA is discussed in Section 3.5.11. Additionally, Section 4.5, Biological Resources, provides an analysis of potential effects on populations of migratory bird species.

Clean Water Act

Compliance with the CWA is discussed in Sections 3.14 and 4.14, Water Resources.

National Historic Preservation Act

Compliance with the NHPA is discussed in Sections 3.6 and 4.6, Cultural Resources.

Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act

Compliance with CERCLA and RCRA are discussed in Sections 3.8 and 4.8, Hazards and Hazardous Substances.

6.1.2 State, Local, and Regional Plans, Policies, and Controls

Compliance with various state, local, and regional plans, policies, and controls is discussed throughout Chapters 3 and 4.

6.2 Irreversible and Irretrievable Commitment of Resources

NEPA requires an analysis of significant, irreversible effects resulting from implementation of a proposed action. Resources that are irreversibly or irretrievably committed to a project are those that are typically used on a long-term or permanent basis; however, those used on a short-term basis that cannot be recovered (e.g., non-renewable resources such as metal, wood, fuel, paper, and other natural or cultural resources) also are irretrievable. Human labor is also considered an irretrievable resource. All such resources are irretrievable in that they are used for a project and, thus, become unavailable for other purposes. An impact that falls under the category of the irreversible or irretrievable commitment of resources is the destruction of natural resources that could limit the range of potential uses of that resource. Disposal of the former installation property, although an irreversible action, does not represent an irretrievable commitment of land resources because this action makes resources available for future reuse.

Short-term irreversible commitments of resources associated with demolition of existing structures on the former NWS Concord and construction of Alternative 1 or 2 include the use of energy and utilities. Construction materials and building supplies would be committed to the reuse and redevelopment of the former NWS Concord property. The use of materials such as gravel, concrete, steel, and glass represents a long-term commitment of such resources that would not be available for other projects. Fuel, lubricants, and electricity would be required during demolition and construction, for the operation of the various types of construction equipment and vehicles, and for the transportation of workers and materials to the construction sites. However, these resources are not in short supply, and their use would not substantially increase overall demand for resources such as electricity or natural gas, or have an adverse effect upon their continued availability.

In the long term, implementation of Alternative 1 or 2 could result in an increase in the amount of energy consumed in heating, air conditioning, and other uses of energy that would support the residential, commercial, institutional, and other uses at the former NWS Concord. Over the long term, implementation of Alternative 1 or 2 would also result in irreversible or irretrievable commitments of resources if land development were to physically eliminate or diminish the character of natural resources on or immediately adjacent to the property. Under Alternatives 1 or 2, permanent wetland impacts could occur on portions of the former installation if they cannot be avoided by the final proposed reuse layout. Under either Alternative 1 or 2, direct, permanent wetland impacts could occur to up to approximately 4.5 or 4.85 acres, respectively. During future development activities, wetland impacts will be minimized to the maximum extent practicable through the final design and permitting process. If the City of Concord does not secure a site-wide Section 404 Individual Permit, future property owners or developers would be responsible for identifying the need for and securing any necessary permits to fill Waters of the U.S. As part of this process, future developers will be required to avoid, minimize, and/or mitigate any permanent impacts on wetland or Waters of the U.S. in accordance with existing policies and procedures of the City of Concord, the CDFW (California Fish and Game Code Section 1602 - Lake or Streambed Alteration Agreements), and the USACE and RWQCB's requirements under Section 401 and 404 of the CWA.

The City of Concord's Area Plan includes measures for renewable, or "green," energy applications at the former installation, as well as federal and state funding opportunities (City of Concord 2012). These energy-efficient and renewable energy applications would be incorporated into the final construction and design of the reuse of the site under Alternatives 1 or 2, thereby reducing the local communities' need for and dependence upon fossil fuels and other non-renewable resources.

6.3 Unavoidable Adverse Environmental Effects and Considerations that Offset Adverse Effects

This section identifies unavoidable adverse effects that may occur as a result of implementing Alternative 1 or Alternative 2. Short- and long-term impacts are described below.

Air Quality and Greenhouse Gases

Under both Alternatives 1 and 2, criteria pollutant emissions would increase during construction and after full build-out, resulting in significant impacts to air quality. Under both alternatives, VOC, NO_X, CO, and $PM_{10}/PM_{2.5}$ emissions would increase, primarily due to emissions during demolition and construction from construction vehicle use, and vehicle use associated with new development at the site. Alternative 2 would result in a greater increase in emissions than Alternative 1.

The Area Plan, including the city's CAP, contains design features and measures that would reduce automobile dependence and vehicle emissions created by human activity that would be associated with new development in the area of the former NWS Concord. These features and measures include the "complete streets concept," to accommodate mass transit, vehicles, bicycles, and pedestrians, balanced on the physical transportation network; mixed-use development with community services and retail to support residential units; and high-density development near the North Concord/Martinez BART Station. As a result, per capita emissions associated with Alternative 1 and 2 will be less than existing per capita emissions in the region. Without the construction of either Alternative 1 or 2, these features and measures would not be implemented; growth that would nevertheless continue in the region may not be subject to measures that would reduce vehicle emissions to the same extent as provided by the Area Plan, and criteria pollutants per capita could continue to increase.

Transportation, Traffic, and Circulation

Alternatives 1 and 2 would open the formerly secure military installation to public access and would increase total weekday traffic near the installation. A net gain of 201,159 vehicle trips under Alternative 1 is projected to occur on the existing network of roads near the former NWS Concord over existing (2013) baseline conditions. Under Alternative 2, a net gain of 227,255 trips over existing (2013) baseline conditions is projected to occur.

Some traffic conditions (i.e., LOS) would be expected to improve over existing conditions. However several intersections, roadways, freeway segments, and freeway ramps are projected to have an LOS rating of "E" or "F," or a v/c ratio or delay lower than it would be under the No Action Alternative, upon the full build-out of both Alternative 1 and Alternative 2. Both long-term and short-term construction-related traffic impacts would be expected with the implementation of Alternative 1 or 2.

As discussed above for air quality, the Area Plan contains design features and measures that would reduce automobile dependence and corresponding vehicle trips that could be associated with a similar level of development. Without the construction of either Alternative 1 or 2, these features and measures would not be implemented, growth that would nevertheless continue in the region may not take place under similar restrictions, and impacts to the regional traffic and transportation network could be greater overall than they would be under development of Alternative 1 or 2.

6.4 Relationships between Short-term Uses of the Environment and the Enhancement of Long-term Productivity

NEPA requires consideration of the relationship between short-term use of the environment and the impacts that such use could have on the maintenance and enhancement of long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. Such impacts include the possibility that one alternative could reduce future flexibility to pursue other alternatives, or that a certain use could eliminate the possibility of other uses at the site.

Long-term benefits resulting from implementation of either Alternative 1 or Alternative 2 would occur at the expense of short-term impacts in the vicinity of the former installation property. These short-term impacts would occur during the phases of construction (which are each anticipated to take from 5 to 10 years to implement) of the selected alternative. Implementation of the phases of either alternative would take place over an estimated build-out period of 25 years. During these phases, the following types of construction would occur: demolition, clearing, grading, excavating, surfacing, road and parking paving, erection of structures, and landscaping. Short-term impacts on local air quality, GHG emissions, biological resources, topography and soils, noise, transportation and traffic, visual resources and aesthetics, and water resources could occur in the vicinity of the former installation during each phase. These impacts would largely be temporary, and proper controls, in the form of BMPs and other mitigation measures, would be used to prevent these effects from resulting in permanent damage or long-term changes in productivity.

As discussed in Chapters 4 and 5, operations related to disposal and reuse of the former NWS Concord could increase traffic, air pollution emissions, and GHGs in the vicinity of the installation. Because these impacts cannot be mitigated to insignificant levels, they would result in decreases in the short-term productivity of the environment. However, the transportation and building strategies designed into the project will reduce average per capita emissions in the future.

Short-term gains in the local economy would occur if local workers were hired and if local businesses provided services and supplies during the construction period. Upon completion of redevelopment, the gains in the local economy would evolve into long-term benefits from the reuse of the property, including an expanded municipal tax base, new businesses and job creation, and, potentially, new employee and business spending in the region.

7 Identification of Mitigation Measures

In accordance with CEQ guidance dated January 14, 2011, this chapter provides a summary of the mitigation measures that will be implemented to avoid or reduce potential impacts identified in Chapter 4. CEQ mitigation guidance recommends that federal agencies take steps to ensure that mitigation measures are actually implemented and that a mitigation monitoring program be established (CEQ 2011). Table 7-1 incorporates this guidance by highlighting the specifics of implementation and identifying the entity responsible for implementation.

The City of Concord has adopted an MMRP under CEQA and amended the Concord 2030 General Plan to include the Area Plan and the MMRP. Therefore, measures identified in the MMRP that will avoid or mitigate potential environmental impacts are legally binding and will be the responsibility of future developers or owners of the property. Compliance with these measures will take place under the jurisdiction and review of the City of Concord and federal, state, and local agencies with regulatory authority over and responsibility for such resources.

In addition, the Area Plan itself is designed to mitigate potential environmental impacts. For example, the plan promotes TOD around the North Concord/Martinez BART Station, transit service in other developed areas of the site, and a broad range of transportation choices (including mass transit, walking, and biking). It provides for public services to support the population increase, and it includes a 300-foot-wide riparian corridor along Mt. Diablo to improve water quality. In addition, the City of Concord, in response to requirements stipulated in state-level legislation and executive action to address the threat of climate change, has incorporated GHG reduction as an essential element of the Area Plan and the ultimate redevelopment of former NWS Concord. The GHG Reduction Program outlined in the CAP (Book Three of the Area Plan) comprises specific standards, principles, and policies, which have been identified as mitigation measures in Chapter 4 and are summarized in Table 7-1 below; these GHG Reduction Program elements have been specifically incorporated into the impact assessment of the following resources: air quality and GHGs, transportation, and public utilities and infrastructure.

Therefore, measures identified in Table 7-1 are primarily those that have been adopted by the City of Concord into its Concord 2030 General Plan. Additional measures that have been identified by the Navy relate to the requirements of federal, state, and local agencies with regulatory authority under the CWA, NHPA, and ESA.

The intent of Table 7-1 is not to duplicate the MMRP or relevant policies in the Area Plan designed to avoid or mitigate environmental impacts. Table 7-1 identifies mitigation measures that address impacts identified in Chapter 4. Therefore, mitigation measures from the MMRP are summarized where appropriate or superseded by statutory requirements under federal environmental requirements. In addition, certain measures in the MMRP have been completed, and are no longer relevant.

Table 7-1 has been arranged by resource, with each mitigation measure discussed in Chapter 4 listed in order of its occurrence.

Table 7-1 has been prepared for Alterative 1, the preferred alternative. Because of the similarities between Alternatives 1 and 2, the mitigation measures included in Table 7-1 would also be applicable to Alternative 2.

This page intentionally left blank.

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Air Quality and GHGs				
Construction Emissions	***City of Concord Area Plan (MMRP Mitigation Measure Air Quality-5; Book 2, Air Quality Policy SHN-4.5):*** Require that all feasible construction-activity-control measures will be applied at the site.	Lower construction emissions	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the requirement for implementation of construction-activity-control measures will be triggered. The list of protective measures will accompany all development permits and authorizations as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future developer(s)
Operational Emissions	***City of Concord Area Plan (MMRP Mitigation Measure Air Quality-1; Book 3, Climate Action Plan):*** Adhere to all measures included in the Area Plan CAP to reduce automobile dependence and potential vehicle emissions as part of project design; these include providing a mix of uses, local and regional transit, and bicycle and pedestrian lanes. Wood-burning fireplaces would be banned or required to employ best available control technologies; households with wood-burning fireplaces would comply with Spare the Air Day restrictions.	Lower operational emissions	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the inclusion of the Area Plan CAP measures will be triggered. The Area Plan CAP measures will be integrated into the final development plans and permits and authorizations.	City of Concord, and future developer(s)
Sensitive Receptors	***City of Concord Area Plan (MMRP Mitigation Measure Air Quality-4; Area Plan Book 2, Air Quality Policy SHN-4.2):*** Prohibit construction of residential uses, daycare centers, medical facilities, and other sensitive receptors within 500 feet of SR 4.	Reducing the impacts of hazardous air pollutants	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the exclusion of siting prohibited uses within the buffer area will be triggered. The 500-foot buffer area, designated on Figure 4.4-1, will be integrated into final development plans, permits, and authorizations.	City of Concord

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Biological Resources				
Special Status Species: California Red-legged Frog, California Tiger Salamander, Alameda Whipsnake	***Mitigation Measure BR-1:*** The Navy, USACE, City of Concord, and EBRPD will implement conservation measures provided in the ESA Section 7 BO to address potential impacts on federally listed species during transfer and implementation of the Area Plan. The conservation measures are a combination of land control activities, programs, BMPs, and compensatory mitigation, which will ensure that adverse impacts on listed species from transfer and implementation of the Area Plan will not be significant. The specific conservation measures are included under the following areas: Conditions of Transfer; Interim Land Management; City Implementation and Oversight of the Conservation Measures; Long-term Preservation and Management of the EBRPD PBC Area and City Conservation Lands; City Conservation Enhancements in EBRPD PBC Area; Off-site Habitat Conservation; Mt. Diablo Creek Riparian Corridor Restoration; Conservation Measures and Siting Guidelines for Educational Displays, Recreation Facilities, and Park Operation Facilities in the Regional Park (EBRPD PBC area); Construction-related Avoidance and Minimization Measures for all City, EBRPD, and First Responder Training Facility Activities; Outfalls; Annual Reporting; Public Outreach Measures; Lighting Measures; and Conservation Measure Modifications.	Protecting federally listed species	***Will be implemented by the Navy, USACE, City of Concord, and EBRPD.*** During the city's review and approval of applications for development following the transfer of property, the city will ensure that protections for special status species are included in development plan approvals and conservation measures identified in the BO are implemented. The EBRPD will ensure that applicable conservation measures will be implemented through development of the EBRPD PBC area. The conservation measures included in the BO for implementation of the Area Plan and the City of Concord's site-wide Section 404 Individual Permit from the USACE, or similar permit secured by future property owners/developers will ensure that avoidance and minimization measures to limit direct and indirect effects on the California red-legged frog, California tiger salamander, and Alameda whipsnake are implemented throughout development of the site. These conservation measures will become binding language for conservation of threatened and endangered species in applicable authorizations and permits. The Navy will ensure that prior to assigning the EBRPD PBC area to the NPS, that the USFWS provides confirmation that a draft conservation easement or other legal mechanism for the preservation of the EBRPD PBC area and a long-term management plan have been approved by the USFWS. In addition, the Navy will ensure that the EBRPD PBC area transfer from the NPS to the EBRPD is completed prior to the development within the EDC area. In addition, while the Navy owns property in the reuse area, they will implement land management activities to maintain or improve habitat conditions for listed species.	Navy, USACE, City of Concord, EBRPD, and future developer(s)
Special Status Species: Bald and Golden Eagles	***City of Concord Area Plan (MMRP Mitigation Measure Biological Resources-9):*** Ensure potential for adverse impacts to bald or golden eagles is minimized.	Protecting special status species	***Adopted in the Area Plan and will be implemented by the City of Concord and EBRPD.*** During the city's review and approval of applications for development following the transfer of property, the city will ensure that protections for bald and golden eagles are included in development plan approvals. During development of the recreational facilities within the conservation space and open areas, EBRPD will ensure that applicable conservation measures stated in the BO are implemented as these may provide some additional benefits to bald or golden eagles within the area.	City of Concord, EBRPD, and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Nesting Birds	***City of Concord Area Plan and MMRP (MMRP Mitigation Measure Biological Resources-11 -12, -13):*** Ensure potential for adverse impacts to nesting birds is minimized.	Protecting nesting birds	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the city will ensure that protections for nesting birds are included in development plan approvals.	City of Concord, EBRPD, and future property developer(s)
California Annual Grassland Habitat	***City of Concord Area Plan and MMRP (MMRP Mitigation Measure Biological Resources-19; Area Plan Book 2, Vegetation and Wildlife Policy C-5.4):*** Control invasive plants within natural resource areas and general open space.	Reducing impacts on native grassland habitat	***Adopted in the Area Plan and will be implemented by the City of Concord and EBRPD.*** During the city's review and approval of applications for development following the transfer of property, the requirement for control of invasive species will be triggered. The city will coordinate with applicable natural resources managers for input/guidance. The requirement to control invasive plants—likely through the development and implementation of an invasive-species management plan—will be integrated into appropriate permits and authorizations. As specified in the BO conservation measure, Long-term Preservation and Management of the EBRPD PBC Area and City Conservation Lands, the EBRPD would manage the open space area as a regional park in accordance with the management policies defined in the EBRPD Master Plan 2013 (EBRPD 2013a), including native vegetation management.	City of Concord, EBRPD, and future property developer(s)
Oak Woodland/Savannah Habitat	***City of Concord Area Plan and MMRP (MMRP Mitigation Measure Biological Resources -18; Area Plan Book 2 Urban Forestry Policy C-6.1):*** Minimize impacts to oak woodland/savannah and heritage trees through avoidance, where feasible, and replacement plantings when mitigation is needed. Prepare an oak protection plan describing measures to protect trees to be saved and mitigate unavoidable impacts as outlined in a tree replacement and planting plan.	Preserving oak woodland/ savannah habitat	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the need to minimize impacts will be triggered. The city will coordinate with applicable natural resource managers for input/guidance. As a condition of final approval, any priority areas of oak savannah and heritage trees will be required to be identified on site plans and narrative text provided to indicate avoidance or mitigation to be provided.	City of Concord, and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Cultural Resources				
NRHP-eligible Archaeological Resources	***Mitigation Measure CR-1:*** The Navy executed a Section 106 Memorandum of Agreement (MOA) that requires the Navy, prior to transfer, to conduct interim management and insert a deed notice regarding the two NRHP-eligible archaeological sites (CA-CCO-680 and P-07-00861) and the applicability of the MOA after Navy transfer. Upon property conveyance, the City of Concord will: protect and preserve archaeological Site CA-CCO-680 as stipulated in the MOA and the associated Treatment Plan for Site CA-CCO-680; preserve the site in place within a greenway; and implement inadvertent discovery measures during any ground-disturbing activities within and adjacent to the boundaries of the site. Upon property conveyance, the EBRPD will: protect and preserve archaeological Site P-07-00861, as well as an adjoining 50-foot-wide buffer, within a habitat conservation area that will be restricted from public access; prohibit ground disturbance and permit disturbance within on Site P-07-00861 and within the 50-foot-wide buffer for habitat enhancement only; and implement inadvertent discovery measures during ground-disturbing activities within the EBRPD parcel.	Preservation and protection of NRHP-eligible historic properties through resolution of adverse effects on historic properties	***Execution of Stipulations in the MOA will be implemented by the Navy, City of Concord, and EBRPD.*** Prior to transfer, while the Navy owns property in the reuse area, the Navy will execute Stipulation I of the MOA and will: conduct interim management of the two NRHP-eligible archaeological sites (CA-CCO-680 and P-07-00861) and insert a deed notice regarding the two NRHP-eligible archaeological sites and the applicability of the MOA after transfer, as specified in the MOA. Following property transfer from the Navy to the City of Concord, the City of Concord will execute Stipulation II of the MOA and will: protect and preserve archaeological Site CA-CCO-680 as stipulated in the MOA and the associated Treatment Plan for Site CA-CCO-680; preserve the site in place within a greenway; and implement inadvertent discovery measures during any ground-disturbing activities within and adjacent to the boundaries of the site. Following property transfer from the Navy to the EBRPD, the EBRPD will execute Stipulation III of the MOA and will: protect and preserve archaeological Site P-07-00861, as well as an adjoining 50-foot-wide buffer, within a habitat conservation area that will be restricted from public access; prohibit ground disturbance and permit disturbance within Site P-07-00861 and within the 50-foot-wide buffer for habitat enhancement only; and implement inadvertent discovery measures during ground-disturbing activities within the EBRPD parcel.	Navy, City of Concord, and EBRPD
Archaeological Resources	***City of Concord Area Plan (MMRP Mitigation Measure Cultural Resources-1; Book 2, Historic and Archaeological Resource Policy C-9.1):*** Require the implementation of measures for preservation in place or for adequate data recovery, curation, and documentation of historic properties/historical resources prior to earth-disturbing activities that would impact any of the six sites in the areas where development is proposed.	Preservation and protection of archaeological resources	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Through continued coordination with the California SHPO and other consulting parties, such as the Concord Historical Society and the EBRPD, a final and approved list of mitigation measures will be developed and then provided to future developers for inclusion in site development plans. The final and approved list of mitigation measures will accompany all applicable development permits and authorizations as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)
Archaeological Resources	***City of Concord Area Plan (MMRP Mitigation Measure Cultural Resources -2; Book 2, Historic and Archaeological Resource Policy C-9.2):*** Require the implementation of cultural resources protection measures to control public access to the five resources located within the Open Space and Parks and Recreation districts.	Preservation and protection of archaeological resources	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Through continued coordination with the California SHPO and other consulting parties, such as the Concord Historical Society and the EBRPD, a final and approved list of protective measures will be developed and then provided to future developers for inclusion in site development plans. The final and approved list of protective measures will accompany all applicable development permits and authorizations as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Archaeological Resources	***City of Concord Area Plan (MMRP Mitigation Measure Cultural Resources -3; Book 2, Historic and Archaeological Resource Policy C-9.3):*** Require the implementation of inadvertent discovery measures for the protection of cultural resources, including human remains.	Preservation and protection of archaeological resources	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Through continued coordination with the California SHPO and other consulting parties, such as the Concord Historical Society and the EBRPD, a final and approved list of discovery measures will be developed and then provided to future developers for inclusion in site development plans. The final and approved list of discovery measures will accompany all applicable development permits and authorizations as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)
Topography, Geology and Soils				
Seismic Risks	***City of Concord Area Plan (Book 2, Earthquake and Landslide Hazard Policies SHN-1.1 and -1.2):*** Limit development on steeper slopes; design all structures to comply with applicable state and local codes; ensure that buildings, utilities, and other structures are designed to reflect the findings of geologic hazards studies.	Address and reduce risks associated with seismic failure (earthquakes and surface fault rupture)	***Adopted in the Area Plan and will be implemented by the City of Concord.*** The development review process will include coordination between the City of Concord and the development applicant regarding applicable studies and measures addressing seismic risks. The city's permit will include specific conditions of approval, including any requirements for, or based on, geologic hazards studies. The city will ensure compliance with the permit through monitoring and inspection.	City of Concord, and future property developer(s)
Soil	***City of Concord Area Plan (MMRP Mitigation Utilities -7):*** Obtain an NPDES General Permit for Stormwater Discharges, and adhere to its conditions.	Protection of the surface environment: soils and water resources	***Adopted in the Area Plan and will be implemented by the City of Concord.*** The development review process will include coordination between the City of Concord and appropriate resource agencies regarding applicable authorizations and permits. The permit will include specific conditions of approval, including the implementation of a SWPPP. The appropriate issuing entity will ensure compliance with the permit through monitoring and inspection.	City of Concord, and future property developer(s)
Hazards and Hazardous Substances				
ER Program Sites and Other Regulatory Sites	***City of Concord Area Plan (Book 2, Hazardous Materials Policy SHN-5.10):*** Obtain all applicable local and state permits, approvals, planning reviews, and consultations and adhere to all applicable building, zoning, environmental, and health and safety laws and regulations before and during redevelopment.	Protection of human health and the environment	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the local and state development review process, applicable laws and regulations requiring compliance will be identified. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
ER Program Sites and Other Regulatory Sites	***City of Concord MMRP (Mitigation Measure Hazardous Materials-1)***: In the context of an early transfer (if an early transfer is agreed to by all required parties). require the development of a remediation plan approved by applicable environmental regulatory agencies and developed in consultation with the City of Concord.	Protection of human health and the environment	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the requirement for a remediation plan will be triggered (in the context of an early transfer). All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval; the remediation plan will be one such measure. Its implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)
ER Program Sites and Other Regulatory Sites	***City of Concord Area Plan and MMRP (MMRP Mitigation Measure Hazardous Materials-2; Book 2, Hazardous Materials Policy SHN-5.6):*** Require the development of a site management plan that covers site development activities, including requirements for worker health and safety plans, air monitoring plans, dust control plans, and soil management plans, as appropriate, that have been approved by applicable environmental regulatory agencies.	Protection of human health and the environment	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the requirement for a site management plan will be triggered. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval; the site management plan will be one such measure. Its implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)
ER Program Sites and Other Regulatory Sites	***City of Concord Area Plan and MMRP (MMRP Mitigation Measure Hazardous Materials -7; Book 2, Hazardous Materials Policy SHN-5.6)***: Require that development activities not interfere with any remediation activities or systems of the Navy or others.	Protection of human health and the environment	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, areas of ongoing remediation will be identified, and avoidance measures for these areas will be developed. Details regarding areas of ongoing remediation will be included in appropriate property transfer documents and made available to future property developer(s). These locations of ongoing remediation will likely be required to be identified on site development plans and other documents.	City of Concord, and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Noise				
Construction-related Noise	***City of Concord MMRP (Mitigation Measure Noise and Vibration-5)***: Require developers to demonstrate compliance with the following guidance: • Whenever construction occurs adjacent to occupied residences (on-site or off-site), temporary barriers shall be constructed around the construction sites to shield the ground floor from the noise-sensitive uses. • Construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday; 8:00 a.m. to 5:00 p.m. on Saturday; and 12:00 p.m. to 4:00 p.m. on Sundays and holidays, or at such other hours that may be authorized and restricted by the permit, if they meet at least one of the following noise limitations: 1. No individual piece of equipment shall produce a noise level exceeding 90 dBA L_{eq} at a distance of 25 feet. If the device is housed within a structure or trailer on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible. 2. The noise level at any point outside the site boundary shall not exceed 90 dBA L_{eq}. • Construction equipment staging areas shall be located as far as feasible from residential areas while still serving the needs of construction contractors. • Quieter "sonic" pile drivers shall be used, unless engineering studies are submitted to the city showing this is not feasible and cost-effective, based on geotechnical considerations. • Ground-borne vibration impacts from construction activities shall be considered in the construction programs to minimize the disturbance to noise-sensitive receptors. • Routes for heavy construction site vehicles shall be identified, and contractors shall be required to use them exclusively to minimize noise and vibration impacts to residences and noise-sensitive receptors. • Activities that generate high noise levels--such as pile-driving and the use of jackhammers, drills, and impact wrenches--shall be restricted to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday.	Reducing construction impacts on noise-sensitive receptors	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the City's review and approval of applications for development following transfer of property, compliance with appropriate policies and regulations pertaining to noise will be triggered. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Operational Noise	***City of Concord Area Plan and MMRP (MMRP Mitigation Measure Noise and Vibration-1; Book 2, Noise Policy SHN-6.6):*** Require that new extensions of West Street and Denkinger Road be constructed using low-noise road surfaces and incorporate grading measures such as berms or other barriers to screen noise. Require developers to fund grants that will allow noise-sensitive receptors to install acoustical insulation.	Reducing operational impacts on noise-sensitive receptors	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals, consult with appropriate agencies, and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)
Operational Noise Impacts on Residential Uses	***City of Concord Area Plan and MMRP (MMRP Mitigation Measure Noise and Vibration-2a; Book 2, Noise Policy SHN-6.1):*** Before approval is granted for any residential uses on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the City shall require developers to conduct an acoustical analysis and that it be submitted to and accepted by the City. New residential development must demonstrate that the City's "normally acceptable" noise standard can be achieved in exterior living spaces.	Reducing operational impacts on noise-sensitive receptors	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals, consult with appropriate agencies, and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)
Operational Noise Impacts on Commercial Uses	***City of Concord Area Plan and MMRP (MMRP Mitigation Measure Noise and Vibration-2b; Book 2, Noise Policy SHN-6.1):*** Before approval is granted for any commercial uses on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the city shall require developers to conduct an acoustical analysis. Construction of buildings for commercial use on land that is exposed to noise levels above the city's noise standard shall only be undertaken after a detailed analysis of the noise-reduction and noise-insulation features needed to comply with city standards.	Reducing operational impacts on noise-sensitive receptors	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)
Operational Noise Impacts on Public Parks and Schools	***City of Concord Area Plan (MMRP Mitigation Measure Noise and Vibration-2c; Book 2, Noise Policy SHN-6.1):*** Before approval is granted for any public parks on parcels of land along the BART and SR 4 corridors, and along Willow Pass Road and Bailey Road, the city shall require developers to conduct an acoustical analysis that will be submitted to and accepted by the city. Public parks shall use grading measures and setbacks to mitigate traffic noise from adjacent roads.	Reducing operational impacts on noise-sensitive receptors	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All applicable development permits and authorizations will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)
Operational Noise Impacts on Residential Receptors	***City of Concord Area Plan (MMRP Mitigation Measure Noise and Vibration-3; Book 2, Noise Policy SHN-6.1):*** Before approval is granted for any buildings that include habitable rooms on parcels on lands along the BART and SR 4 corridors and along Willow Pass Road, the city shall require developers to conduct an acoustical analysis demonstrating that the 45 dBA L_{dn} standard is achieved. The acoustical analysis will be submitted to and accepted by the city.	Reducing operational impacts on residential receptors	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All building permits will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Operational Noise Impacts on Residential Receptors	***City of Concord Area Plan (MMRP Mitigation Measures Noise and Vibration-4, -6; Book 2, Noise Policy SHN-6.1):*** Require any new development of the site to include noise-control measures at stationary sources to reduce impacts to noise-sensitive receptors. Prior to the issuance of building permits, the city shall require developers to submit engineering and acoustical specifications for project mechanical HVAC and utility transformers (including generators) to the planning department or other appropriate department, demonstrating that the equipment design (type, location, enclosure, specifications) could control noise from the equipment to at least 10 dBA below existing ambient noise levels at nearby residential and other noise-sensitive land uses. The acoustical analysis will be submitted to and accepted by the city.	Reducing operational impacts on residential receptors	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to the construction of any new development at the former NWS Concord, the City of Concord will review development proposals and add conditions to permits for such proposals that will address environmental impacts determined to be significant. All building permits will stipulate appropriate compliance measures as a condition of approval. Their implementation will be monitored as part of the permit and authorization process.	City of Concord, and future property developer(s)
Transportation, Traffic and Circulation				
Increase in Traffic Volume at Area Intersections	***City of Concord Area Plan and MMRP (MMRP Mitigation Measure Transportation[1]; Area Plan Book 2, TDM Policies T-4.1-T-4.8 and Interagency Coordination Policy T-5.2):*** TDM programs have been adopted through an amendment to the Concord General Plan that will reduce the use of automobiles and lessen traffic impacts (Area Plan Book 2, TDM Policies T-4.1-T-4.8). Performance of TDM programs on-site will be evaluated as development occurs in the future, as stated in the MMRP. Roadway or traffic-flow improvements may be considered in light of future conditions by the City of Concord and incorporated as needed into development proposals to mitigate impacts of the increase in traffic volume on LOS. As stated in the MMRP Transportation Section and Area Plan Book 2 Interagency Coordination Policy T-5.2, the City of Concord will coordinate with affected jurisdictions on specific mitigation measures prior to the approval of a development plan or discretionary entitlement. The goal of coordination is to address the traffic impacts in the respective agencies' jurisdiction through appropriate mitigation measures, which may include TDM measures, arterial traffic management tools, adaptive timing technology upgrades, and physical roadway improvements that increase capacity. Physical roadway improvements may include widening roadways to provide dedicated turning lanes, widening roadways to provide dedicated receiving lanes for through traffic, and other similar projects, such as those identified in Tables 4-11.9 through Tables 4-11.12 of the EIS.	Reducing operational impacts at intersections	***Will be implemented by the City of Concord.*** Prior to the approval of a development plan or discretionary entitlement at the former NWS Concord, the city will coordinate with affected local jurisdictions to identify appropriate mitigation measures. If roadway and traffic-flow improvements are required, then the city of Concord will also coordinate with appropriate regional traffic and transportation planning entities: Caltrans, the Metropolitan Transportation Commission, Contra Costa Transportation Authority, and Regional Transportation Planning Committees. This coordination would result in the placement of projects on improvement program lists and/or identification of needed mitigation measures on final permits and authorizations as a condition of approval by the city.	City of Concord, affected jurisdictions, transportation agencies
Area Intersections	***City of Concord Area Plan (MMRP Mitigation Measure Transportation-3)***: Monitor intersections impacted and develop updated traffic-volume forecasts based on the performance of the city's VMT reduction program as development occurs in the future.	Reducing traffic impacts on the area	***Adopted in the Area Plan and will be implemented by the City of Concord.*** As redevelopment of the site progresses, the city will monitor the intersections on or near the site. If conditions warrant, modifications to traffic-management solutions may be added as conditions of future development approval.	City of Concord

[1] The City of Concord has committed to actions for EIR Mitigation Measures Transportation 1 through 11 in the MMRP that are aligned with specific locations. This Mitigation Measure assumes all intersections, roadway and freeway segments, and freeway ramps would be considered similarly for TDM programs and interagency coordination.

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Area Transportation Networks	***City of Concord Area Plan (MMRP Mitigation Measure Transportation-4; Area Plan Book 2, Off-Site Impact Policy T-5.1):*** Conduct a Nexus Study, required pursuant to the Mitigation Fee Act, for the entire site to establish an equitable traffic impact-fee rate for each land use category to ensure that future development projects will contribute a fair share of the unfunded costs of planned improvements and mitigation measures determined by the City of Concord in consultation with the affected jurisdictions. In addition, require future developers to contribute a traffic impact fee in accordance with the TRANSPAC Subregional Transportation Mitigation Fee Program requirements of the Central County Action Plan for Routes of Regional Significance.	Reducing traffic impacts on the area	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to the construction of any new development at the former NWS Concord, the City of Concord will commission a Nexus Study for the entire site and use its results to identify specific impact fees for future components of development. All applicable development permits and authorizations will include the specified traffic impact fee and its payment as a condition of approval.	City of Concord, and future property developer(s)
Utilities and Infrastructure				
Water Supply and Demand: Recycled Water	***City of Concord Area Plan (MMRP Mitigation Measure Utilities-3b; Book 3, multiple Water Efficiency policies)***: Use treated wastewater from CCCSD for approved uses, such as irrigation supply, to reduce the demand for potable water; provide CCCSD with data regarding future demand for untreated raw water supplies.	Reducing future water demand	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to the construction of any new development at the former NWS Concord, the city will coordinate with CCCSD for future recycled water provision. A written agreement with CCCSD will outline the recycled water provision and any infrastructure needs. This document will be shared with future property developer(s).	City of Concord
Water Supply and Demand	***City of Concord Area Plan (MMRP Mitigation Measure Utilities-1b)***: Implement demand-side management strategies (e.g., high-efficiency fixtures and appliances in residential units, high-efficiency irrigation systems, and water-wise landscape techniques for residential and commercial properties) to reduce water demand.	Reducing future water demand	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to construction of any new development at the former NWS Concord, the city will coordinate with CCWD regarding the inclusion of demand-side management strategies. Once a final list of approved strategies has been developed, this list will be shared with future property developer(s) and included as a condition(s) in applicable city approvals and permits (i.e., building permits) and on applicable development plans.	City of Concord, and future property developer(s)
Water Supply and Demand: Water Treatment and Distribution	***City of Concord Area Plan (MMRP Mitigation Measure Utilities-6; Book 2, Water Service Policy U-2.1):*** Coordinate with CCWD prior to development to ensure that adequate water supply, quality, and distribution and treatment infrastructure will be available, and that infrastructure is constructed to meet CCWD's requirements and standards.	Ensuring sufficient water supply for future development	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to construction of any new development at the former NWS Concord, the city will coordinate with CCWD regarding its ability to supply adequate water to the site and that the necessary distribution infrastructure exists. A written agreement with CCWD will likely be sought, outlining system capacities, and this agreement will be shared with future property developer(s) as part of the development review process.	City of Concord, and future property developer(s)
Recycled Water Distribution System	***City of Concord Area Plan (MMRP Mitigation Measure Utilities-1C)***: Require the installation of a "purple pipe" in outdoor irrigation systems throughout the project area.	Maximize the potential use of recycled water to reduce potable water demand	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to construction of any new development at the former NWS Concord, and once the City of Concord has finalized agreements with CCCSD regarding the provision of recycled water (see Area Plan Mitigation Measure Utilities-3b above) and CCWD regarding distribution infrastructure (see Area Plan Mitigation Measure Utilities-6 and Water Service Policy U-2.1 above), the city will require the installation of "purple pipe" as a condition of development approval in applicable authorizations and development permits.	City of Concord, and future property developer(s)
Recycled Water Distribution	***City of Concord Area Plan (MMRP Mitigation Measure Utilities-4a):*** Coordinate with CCWD to ensure that future development includes construction of the untreated water distribution system, storage tanks/ponds, filtering systems, and other facilities needed to supply recycled water in accordance with CCWD standards.	Maximize the potential use of recycled water to reduce potable water demand	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to construction of any new development at the former NWS Concord, and once the City of Concord has finalized agreements with CCCSD regarding the provision of recycled water (see Area Plan Mitigation Measure Utilities-3b above) and CCWD regarding distribution infrastructure (see Area Plan Mitigation Measure Utilities-6 and Water Service Policy U-2.1 above), the city will require, through development plan review, that each future developer provides the necessary facilities to accommodate their future land uses. Provision of such infrastructure will be a condition(s) of development approval and stipulated in an authorization or permit.	City of Concord, and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Stormwater Management	***City of Concord Area Plan (Book 2, Water Quality Policy C-4.3***): Require that appropriate grading plans and stormwater control plans are submitted for compliance with the city's municipal code and the joint municipal NPDES permit.	Reducing adverse impacts of increases in runoff flows	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to construction of any new development at the former NWS Concord and as part of the development review process, the City of Concord will require that each developer provide a complete development submittal package, inclusive of an application for a grading permit and a stormwater control plan. These elements will become conditions of overall development approval by the city.	City of Concord and future property developer(s)
Stormwater Management	***City of Concord Area Plan (MMRP Mitigation Measure Utilities-7; Book 2, Water Quality Policy C-4.2):*** Require all development to include any needed storm drains that are not part of the city's master storm drain system and to incorporate features into site improvement plans that would minimize surface runoff (e.g., additional landscaped areas and/or swales, permeable paving, etc.) and coordinate with CCCFC&WCD regarding adequate capacity to manage stormwater.	Reducing adverse impacts of increases in runoff flows	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to construction of any new development at the former NWS Concord and as part of the development review process, the City of Concord will require that each developer provide a complete development submittal package, inclusive of detailed site improvement plans delineating all stormwater management BMPs to be employed on-site. These elements will become conditions of overall development approval by the city.	City of Concord and future property developer(s)
Wastewater Volume	***City of Concord Area Plan (MMRP Mitigation Measure Utilities-2; Book 2, Wastewater Service Policy U-3.1)***: Reach an agreement with CCCSD such that it commits to improving its collection system and treatment process and to pursuing a sufficient discharge limit, as needed in the future.	Ensuring compliance with effluent discharge limitations	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to construction of any new development at the former NWS Concord, the City of Concord will coordinate with CCCSD to reach an agreement regarding necessary collection and treatment process improvements to facilitate future development at the project site. A written agreement with CCCSD will be sought, outlining specific system improvements, and this agreement will be shared with future property developer(s) as part of the development review process.	City of Concord
Electricity and Natural Gas	***City of Concord Area Plan (MMRP Mitigation Measure Utilities-8, - 8b, -9a, and -9b; Book 2, Energy Infrastructure Policy U.7-1)***: Coordinate with PG&E regarding planned future development, provide data for PG&E to assess the future electricity and natural gas demand, and require PG&E to demonstrate that it can provide necessary system upgrades and construct new electrical substations/gas regulating stations to meet future demand. Require the future developer(s) to study the environmental impacts of such facilities.	Ensuring adequate electricity and natural gas supply and distribution infrastructure	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to construction of any new development at the former NWS Concord, the City of Concord will coordinate with PG&E to reach an agreement regarding future provision of electricity and natural gas to the site. This coordination will include the provision of data on future electricity and natural gas demand projections for PG&E's use in demonstrating that future demand can be met with specific upgrades and new facilities. A written agreement with PG&E will be sought, outlining specific system improvements, and this agreement will be shared with future property developer(s) as part of their development review process. Future property developer(s) will then use the information outlined in the agreement to address environmental impacts of proposed system upgrades.	City of Concord and future property developer(s)
Telecommunications	***City of Concord Area Plan (MMRP Mitigation Measure Utilities-10):*** Require communication providers to demonstrate that they can supply sufficient additional services to support future development.	Ensuring adequate communication infrastructure	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to construction of any new development at the former NWS Concord, the City of Concord will coordinate with regional communication providers to reach an agreement regarding future provision of communications to the site. A written agreement with applicable providers will be sought, and this agreement will be shared with future property developer(s) as part of their development review process.	City of Concord
Visual Resources				
Visual Resources: Views from Key Observation Points	***City of Concord Area Plan (MMRP Mitigation Measures Visual Resources-1 and -2)***: Require developers to incorporate design BMPs into site development plans that would minimize impacts to views from SR 4 and the Sun Terrace Neighborhood.	Minimizing visual impacts	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the city will ensure the integration of design BMPs into site development plans as needed, as a condition of development plan and/or permit approval.	City of Concord and future property developer(s)
Visual Resources: Lighting	***City of Concord Area Plan (MMRP Mitigation Measure Visual Resources-4)***: Require developers to incorporate light-reducing and light-controlling measures into site development plans.	Minimizing visual impacts	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following transfer of property, the city will ensure the integration of light-controlling measures into site development plans as needed, as a condition of development plan and/or permit approval.	City of Concord and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Water Resources				
Groundwater Quality	***Mitigation Measure WR-1:*** If dewatering is necessary, require an NPDES permit from the San Francisco Bay RWQCB to address dewatering.	Protecting groundwater resources	***Will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the city will coordinate with other resource agencies--in this case, the San Francisco Bay RWQCB--to identify applicable permits/approvals. The developer will be required to obtain such a permit, and the permit will be a condition of overall development approval by the city.	City of Concord and future property developer(s)
Wetlands	***Mitigation Measure WR-2:*** The City of Concord will ensure that minimization, avoidance, and mitigation measures that will be presented in the site-wide Section 404 Individual Permit from the USACE (and, as appropriate, permits and authorizations from the RWQCB), or other similar permits attained by future developers or property owners will be implemented to address potential impacts on USACE jurisdictional wetlands during implementation of the Area Plan.	Ensuring impacts on wetlands are mitigated	***Will be implemented by the City of Concord.*** If the city attains a site-wide Section 404 Individual Permit for the Area Plan that is certified by the RWQCB, the permit conditions would include measures to adequately avoid, minimize, and mitigate for any adverse impacts on wetlands or Waters of the U.S. If the city does not secure site-wide permits, future property owners or developers would be responsible for securing any necessary state or federal permits and would have to demonstrate to the applicable resource agencies that impacts on wetlands, streams, and riparian habitats have been minimized. During the city's review and approval of applications for development following the transfer of property, the city will coordinate with other resource agencies to identify applicable permits/approvals. Additionally, the developer and the city will coordinate with the USACE and RWQCB regarding site-specific mitigation requirements. Obtaining authorization will be part of the city's site-wide permit.	City of Concord and future property developer(s)
Site Disturbance	***City of Concord Area Plan (Book 2, Water Quality Policy C-4.3)***: Site developers would be required to adhere to the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity, including the development and implementation of a SWPPP.	Minimizing site-disturbance-induced impacts on surface waters	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following transfer of property, the city will coordinate with other resource agencies to identify applicable permits/approvals. Obtaining coverage under the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity will be a condition of development plan approval, as appropriate.	City of Concord, and future property developer(s)
Site Disturbance and Surface Water Quality	***City of Concord Area Plan (Book 2, Stormwater Management Policies U-5.2 and U-5.3)***: Adhere to BMPs and standards stipulated in Section 86-39 of the city's Stormwater Management and Discharge Control Ordinance and the city's Grading and Erosion Control Ordinance.	Minimizing site-disturbance-induced impacts on surface waters	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the city will ensure the integration of design BMPs into site development plans as needed, as a condition of development plan and/or permit approval.	City of Concord, and future property developer(s)
Filling Streams	***City of Concord Area Plan (MMRP Mitigation Measure Biological Resources-2; Book 2, Hydrology Policy C-3.5):*** The City of Concord will ensure that minimization, avoidance, and mitigation measures that will be presented in the site-wide Section 404 Individual Permit from the USACE (and, as appropriate, permits and authorizations from the RWQCB), or other similar permits attained by future developers or property owners, will be implemented to address potential impacts on USACE jurisdictional streams during implementation of the Area Plan.	Ensuring impacts on streams and riparian habitat are mitigated	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the city will coordinate with other resource agencies to identify applicable permits/approvals. Additionally, the developer and the city will coordinate with the USACE and RWQCB regarding site-specific mitigation requirements, as specified in the site-wide Section 404 Individual Permit, if attained, or similar permits from future property owners or developers.	City of Concord, and future property developer(s)

Table 7-1 Summary Table of Mitigation Measures

Resource Affected	Description of Mitigation Measure	Anticipated Benefit(s)	How Will It Be Implemented?	Responsible Party
Increasing Impervious Surfaces (Increased Stormwater Flows)	***City of Concord Area Plan (MMRP Mitigation Measure Utilities-7; Book 2, Stormwater Management Policies U-5.2 and U-5.3):*** Require developers to manage stormwater discharges in accordance with the City of Concord's Stormwater Management and Discharge Control Ordinance, including the development of a stormwater control plan that meets the criteria in the most recent version of the Contra Costa Clean Water Program C.3 Guidebook. In summary, the C.3 provisions require that certain new developments accomplish the following: • Design the site to minimize imperviousness; detain runoff; and infiltrate, reuse, or evapotranspirate runoff, where feasible; • Cover or control sources of stormwater pollutants; • Treat runoff prior to discharge from the site; • Ensure runoff does not exceed pre-project peaks and durations; and • Maintain treatment and flow-control facilities. Additionally, adhere to BMPs and standards stipulated in the Stormwater Management and Discharge Control Ordinance.	Minimizing discharges to surface waters	***Adopted in the Area Plan and will be implemented by the City of Concord.*** During the city's review and approval of applications for development following the transfer of property, the City of Concord will require that each developer provide a complete development submittal package, inclusive of an application for a grading permit and a stormwater control plan. Additionally, the City of Concord will require that each developer provide a complete development submittal package, inclusive of detailed site improvement plans delineating all stormwater management BMPs to be employed on-site. These elements will become conditions of overall development approval by the city.	City of Concord, and future property developer(s)
Floodplains	***City of Concord Area Plan (Book 2, Flooding Policy SHN-2.6):*** Require an approved Conditional Letter of Map Revision (CLMR) from FEMA to demonstrate that the 100-year design flow is contained within Mt. Diablo Creek and that no modifications to the floodway or special hazard area would result from redevelopment.	Protecting public safety	***Adopted in the Area Plan and will be implemented by the City of Concord.*** Prior to construction of any new development at the former NWS Concord, the City of Concord will coordinate with FEMA on obtaining the appropriate approvals for any development features to be sited in the 100-year floodplain.	City of Concord

This page intentionally left blank.

8 List of Preparers

This EIS was prepared for the Naval Facilities Engineering Command Headquarters (NAVFAC HQ), BRAC Program Management Office (BRAC PMO) West by Ecology and Environment, Inc. (E & E) under contract with NAVFAC, Southwest (NAVFAC Southwest). A list of primary Navy organizations and individuals who contributed to the preparation and review of this document include:

NAVFAC

NAVFAC HQ
BRAC PMO West
33000 Nixie Way, Building 50; San Diego, CA 92147
Erica Spinelli, Deputy Base Closure Manager, NEPA Planner, Project Manager
Scott Anderson, BRAC Environmental Coordinator
Marc P. Smits, BRAC Environmental Coordinator

NAVFAC Southwest
Marvin Norman, Associate Counsel
Kristina Madali, Lead Remedial Project Manager
George Herbst, Archaeologist

The consulting firm responsible for the preparation of this document is:

E & E
368 Pleasant View Drive
Lancaster, NY 14086

and

505 Sansome Street, Suite 300
San Francisco, CA 94111

Jone Guerin, AICP *Project Director*
MS, Natural Resources Management and Policy

Christy Herron, AICP *DEIS Project Manager*
MCP, City Planning

Deepali McCloe *FEIS Project Manager*
MUP, Urban Planning

Amy DiCarlantonio, AICP, LEED AP (BD+C) *Alternatives, Traffic, Land Use*
MSc, City Design/Social Science

Justin Peterson *Land Use*
BS, Urban Planning

Tegan Kondak *Socioeconomics and Environmental Justice*
BS, Environmental Studies

Kirsten Shelly *Socioeconomics and Environmental Justice*
MS, Environmental/Resource Economics

Laurie Kutina, CEM, REM *Air Quality*
MA, Architecture

Paul Van Kerkhove, PE *Air Quality*
MS, Environmental Science/Engineering

Tyler Barns *Biological Resources, Cumulative*
MS, Environmental Sciences

Sean Meegan *Biological Resources*
MS, Natural Resource Science

Natasha Snyder *Cultural Resources*
MA, Anthropology

Marcy Werth *Topography, Geology, and Soils*
BA, Environmental and Natural Resource Policy Studies

Erin Lynch *Topography, Geology, and Soils*
MS, Geology

Donna Kassel *Hazards and Hazardous Substances*
MA, Biology

Silvia Yanez *Noise*
MS, Development and Environment

Tom Siener, CIH *Noise*
BS, Biology

Claire Hodgkins *Public Services, Utilities and Infrastructure*
BA, Journalism/Public Relations

Rob Peterson, AICP, *Public Services, Utilities and Infrastructure*
PhD, Education

Carl Sadowski, AICP *Transportation*
MUP, Environmental Planning

Natalie Seitz *Visual Resources and Aesthetics*
MA, Environmental Impact Assessment/Management

Susan Nordstrom *Visual Resources and Aesthetics*
MLA, Landscape Architecture

Katie Dixon *Water Resources*
MS, City and Regional Planning

Louise Flynn *Cumulative*
MES, Environmental Studies

Rebecca Smith *GIS Analysis*
MA, Geography

Jenna Beall-Schwab *GIS Analysis*
BA, Geography

Kristin Siekmann *Graphics*
BFA, Graphic Design

Stephen McCabe *Technical Editor*
MFA, Creative Writing

John Sander *Technical Editor*
BS, History

The consulting firms responsible for the preparation of supporting studies to the EIS include:

Transportation Impact Study:
Kittelson & Associates, Inc.
155 Grand Avenue, Suite 900
Oakland, CA 94612

National Register of Historic Places Evaluation of 21 Archaeological Sites:
ASM Affiliates, Inc.
2034 Corte Del Nogal
Carlsbad, CA, 92011

Historic Building Inventory and Evaluation Update Report:
JRP Historical Consulting, LLC
2850 Spafford Street
Davis, CA 95618

This page intentionally left blank.

9 References

ABAG (Association of Bay Area Governments). 2008. Strategic Plan. Accessed June 28, 2013. http://www.abag.ca.gov/pdfs/strategic-goals08.pdf

_____. 2013. Association of Bay Area Governments Projections and Priorities 2013.

_____. n.d. *Bay Area Plan Projections 2013*. Oakland, California

ABAG and the MTC (Metropolitan Transportation Commission). 2013. Bay Area Plan: Strategy for a Sustainable Region. Adopted July 18, 2013. http://files.mtc.ca.gov/pdf/Plan_Bay_Area_FINAL/Plan_Bay_Area.pdf

Accord MACTEC 8A JV and Richard Brady & Associates (Brady). 2013. Final Focused Feasibility Study for Groundwater and Soil Gas, IR Site 29. Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California. Prepared for Naval Facilities Engineering Command, Southwest. June 5, 2013. Santa Ana and San Diego, California.

ACHP (Advisory Council on Historic Preservation). 2004. 36 CFR Part 800 – Protection of Historic Properties (incorporating amendments effective August 5, 2004). Accessed June 19, 2013. http://www.achp.gov/regs-rev04.pdf.

ALH (ALH Urban & Regional Economics). 2013. Concord Reuse Project Area Plan: Summary of Updated Financial Analysis. Technical memorandum to Michael Wright, City of Concord, from Mary Smitheram-Sheldon, Thomas Jirovsky, and Amy Herman, ALH. January 28, 2013. Berkeley, California.

American Farmland Trust. 2011. Sustaining Our Agricultural Bounty: An Assessment of the Current State of Farming and Ranching in the San Francisco Bay Area. Greenbelt Alliance, Sustainable Agriculture Education. Accessed May 12, 2014. http://www.farmland.org/documents/SustainingOurAgriculturalBountyMARCH2011.pdf

AMR. n.d. Contra Costa County. Accessed on April 4, 2014: https://www.amr.net/home/contra-costa

Arup North America, Ltd. (Arup). 2010. *Mitigation Monitoring and Reporting Program for Concord Community Reuse Project*. Prepared by Arup North America, Ltd., San Francisco, California. Prepared for City of Concord, Concord, California. February 2, 2010.

ASM Affiliates, Inc. 2014. *Final National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impacts Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California.* February 2014. Prepared by ASM Affiliates, Inc., Reno, Nevada, and ASM Affiliates, Inc., Carlsbad, California. Prepared for Navy Base Realignment and Closure (BRAC) Program Management Office (PMO) West, San Diego, California, and Naval Facilities Engineering Command (NAVFAC) Southwest, San Diego, California, under Contract Number N62470-05-D-6201, Task Order 0039.

Austin, Laura. 2017. City of Martinez, Administrative Aide. Personal communication (email and phone) with Kathleen Mollow, Ecology and Environment, Inc. regarding the City Planning Department's Major Projects list (current web link unavailable). January 19, 2017.

BAAQMD (Bay Area Air Quality Management District). 1999. BAAQMD. *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans*. December 1999.

_____. 2010. *Bay Area 2010 Clean Air Plan*. Final Clean Air Plan, Volume 1. Adopted September 15, 2010. Accessed August 13, 2014: http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx

_____. 2012. BAAQMD. *California Environmental Quality Act Air Quality Guidelines, Updated May 2012.* Accessed September 29, 2014. at http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en

_____. 2014. BAAQMD Website Updated CEQA Guidelines. Updated January 16, 2014. Accessed January 16, 2017. http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines#top

_____. 2017. Draft 2017 Clean Air Plan. http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/baaqmd_2017_cap_draft_122816-pdf.pdf?la=en. Accessed January 19, 2017.

Barry, S. J. and H. B. Shaffer. 1994. "The Status of the California Tiger Salamander (*Ambystoma californiense*) at Lagunita: a 50-year Update." *Journal of Herpetology* 28:159-164.

BART (San Francisco Bay Area Rapid Transit). 2008. *Strategic* Plan. Accessed June 28, 2013. http://www.bart.gov/docs/strategicPlan.pdf

_____. 2014. Schedules by Station. Accessed March 27, 2014. http://www.bart.gov/schedules/bystation

_____. 2015. Strategic Plan Framework. Accessed March 27, 2017. http://www.bart.gov/sites/default/files/docs/Adopted%20Strategic%20Plan%2020151022.pdf

_____. 2016. Transit-Oriented Development Strategy. Accessed March 27, 2017. http://www.bart.gov/sites/default/files/docs/BART%20Board%20-%20TOD%20Policy%20Draft%206-9-16%20Adopted%20FINAL_0.pdf

Bay Area Council Economic Institute. 2012. *The Bay Area: A Regional Economic Assessment*. A Bay Area Council Economic Institute Report. October 2012. Accessed July 11, 2013. http://www.bayareaeconomy.org/media/files/pdf/BAEconAssessment.pdf

Bay Area Joint Policy Committee. 2009. FOCUS: A Development and Conservation Strategy for the San Francisco Bay Area. Accessed July 1, 2013. http://www.bayareavision.org/initiatives/index.html

Bay Delta Conservation Plan. 2014. "About the Delta." Accessed August 19, 2014. http://baydeltaconservationplan.com/AboutTheDelta/AbouttheDelta.aspx

BLM (U.S. Department of the Interior, Bureau of Land Management). 1984. *Manual 8400 – Visual Resource Management*. April 5.

_____. 1986. Manual 8431 – Visual Resource Contrast Rating. January 17.

Broschard, Lewis. 2015. Assistant Fire Chief, Support Services Division, Contra Costa County Fire Protection District. Pers. Comm. with Amy DiCarlantonio, Ecology and Environment, Inc., March 27, 2015.

Busby, Colin I., Dona M. Garaventa, Stuart A. Guedon, and Melody E. Tannam. 1996. *Archaeological Inventory of a Portion of NWS Concord and an Archaeological Assessment and Field Condition Review of CA-CCO-680, Warehouse Site and Associated Access Roads, Naval Weapons Station, Concord, Contra Costa County, California*. Basin Research Associates, Inc., for Uribe and Associates. Cited in the *Final Report for Concord Inland BRAC Disposal Archaeological Survey, Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California*. Prepared by Arleen Garcia-Herbst, Senior Archaeologist, and Micah Hale, Senior Archaeologist, ASM Affiliates, Inc., Carlsbad, California. Prepared for VAVGAC SW, San Diego, California, under Contract No. N68711-04-D-3620, Task Order 0015.

CalEPA (California Environmental Protection Agency). 2014. California Environmental Protection Agency Air Resource Board, 2014 Edition, California GHG Emissions Inventory, May 13. Accessed August 7, 2014. http://www.arb.ca.gov/cc/inventory/data/misc/ghg_inventory_trends_00-12_2014-05-13.pdf

_____ 2017. San Francisco Bay Regional Water Quality Control Board – The 303(d) List of Impaired Waterbodies. Accessed March 7, 2017. http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/303dlist.shtml.

California Air Resources Board (CARB). 2015. Governor Brown Establishes Most Ambitious Greenhouse Gas Reduction Target in North America. April 29, 2015. Accessed January 18, 2017. https://www.gov.ca.gov/news.php?id=18938

_____. 2016. CARB CAAQS Area Designations and Maps reviewed May 2016. Accessed March 13, 2017. https://www.arb.ca.gov/desig/changes.htm#summaries

_____. 2017a. ADAM: Air Quality Data Statistics Web Page. Accessed February 21, 2017 at http://www.arb.ca.gov/adam/index.html

_____. 2017b. AB 32 Scoping Plan. Accessed January 18, 2017. https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm

California Building Standards Commission. 2016. California Building Standards Code (California Code of Regulations, Title 24). 2016 Triennial Edition (effective January 1, 2017). Accessed March 27, 2017. http://www.bsc.ca.gov/codes.aspx

California Department of Conservation. 2007. Regulatory Maps. Accessed July 3, 2013. http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm

California Department of Finance. 2014. "California Grew by 356,000 Residents in 2013." Press release and supporting data issued April 30, 2014. Sacramento, California.

California Department of Water Resources. 2003. California's Groundwater Bulletin 118. http://www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/2-5.pdf

_____. 2013. The Water Conservation Act of 2009. Accessed September 4, 2013. http://www.water.ca.gov/wateruseefficiency/sb7/

_____. 2017. Senate Bill SB X7-7 2009: Latest News. Accessed March 24, 2017. http://www.water.ca.gov/wateruseefficiency/sb7/

California Energy Commission. 2015. 2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings. June 205. Accessed March 27, 2017. http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf

California Native Plant Society (CNPS). 2014. Electronic Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society, Sacramento, California. Accessed July 8, 2013. http://www.rareplants.cnps.org/. Accessed on July 8, 2013.

California Natural Resources Agency. 2009. *California Climate Adaptation Strategy*.

California Natural Diversity Database (CNDDB). 2014. CNDDB Maps and Data. Data Download. http://www.wildlife.ca.gov/Data/CNNDB Accessed April 1, 2014.

California Office of the Governor. 2017. U.S. Climate Alliance adds 10 new members to coalition committed to upholding the Paris Accord. June 5, 2017. Accessed June 12, 2017 at https://www.gov.ca.gov/news.php?id=19831.

California Employment Development Department. 2017. "Major Employers in Contra Costa County." Accessed March 17, 2017. http://www.labormarketinfo.edd.ca.gov/majorer/countymajorer.asp?CountyCode=000013

California Regional Water Quality Control Board (CRWQCB). 2005. Diazinon and Pesticide-Related Toxicity in Bay Area Urban Creeks. Water Quality Attainment Strategy and Total Maximum Daily Load (TMDL) Proposed Basin Plan Amendment and Staff Report. San Francisco Bay Region, November 9, 2005.

California State Board of Equalization. 2017. "California Sales and Use Tax Rates by County and City: Operative January 1, 2017." http://www.boe.ca.gov/pdf/boe95.pdf Accessed March 14, 2017.

CalRecycle. 2013. Mandatory Commercial Recycling. Accessed April 30, 2014. http://www.calrecycle.ca.gov/recycle/commercial/

_____. 2014a. Facility/Site Summary Details: Potrero Hills Landfill (48-AA-0075). Data file updated May 23, 2014. Accessed May 26, 2014. http://www.calrecycle.ca.gov/SWFacilities/Directory/48-AA-0075/Detail/

_____. 2014b. Facility/Site Summary Details: Keller Canyon Landfill (07-AA-0032). Data file updated April 30, 2014. Accessed April 30, 2014. http://www.calrecycle.ca.gov/SWFacilities/Directory/07-AA-0032/Detail/

_____. 2014c. Jurisdiction of Origin Waste Disposal by Facility for Potrero Hills Landfill 48-AA-0075. Disposal Reporting System report. Data file updated August 8, 2014. Accessed August 10, 2014. http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=ReportName%3dReportEdrsFacilitySummaryByJurisdiction%26DisposalFacilityID%3dCa4582%26SwisNo%3d

_____. 2014d. Jurisdiction of Origin Waste Disposal by Facility for Keller Canyon Landfill 07-AA-0032. Disposal Reporting System report. Data file updated August 8, 2014. Accessed August 10, 2014. http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=ReportName%3dReportEdrsFacilitySummaryByJurisdiction%26DisposalFacilityID%3dCa274%26SwisNo%3d

_____. 2016. State of Recycling in California. Updated February 2016. Sacramento, California.

_____. 2017. Countywide, Regionwide, and Statewide Jurisdiction Diversion/Disposal Progress Report. Contra Costa County, 2006. Accessed March 25, 2017. http://www.calrecycle.ca.gov/LGCentral/Reports/jurisdiction/diversiondisposal.aspx

Caltrans (California Department of Transportation). 2012. Highway Design Manual, Chapter 1000, Bicycle Transportation Design.

_____. 2013. About Caltrans. Accessed August 1, 2013. http://www.dot.ca.gov/aboutcaltrans.htm

_____. 2016a. California Transportation Plan 2040 Fact Sheet. Accessed March 13, 2017. http://www.dot.ca.gov/hq/tpp/californiatransportationplan2040/Documents/index_docs/CTP2040-FactSheet17.pdf#zoom=75

_____. 2016b. 2016 SHOPP State Highway Operation and Protection Program. 2016 SHOPP Project List Contra Costa. Accessed March 13, 2017. http://www.dot.ca.gov/hq/transprog/SHOPP/2016%20SHOPP/2016-shopp-adopted-by-CTC.pdf

_____. 2017. Caltrans District 4 Bay Area Projects. Accessed March 13, 2017. http://www.dot.ca.gov/dist4/projects_list.htm

CAPCOA (California Air Pollution Control Officers Association). 2009. *Health Risk Assessments for Proposed Land Use Projects.* CAPCOA Guidance Document. Prepared by CAPCOA Planning Managers. July 2009.

CCCFPD (Contra Costa County Fire Protection District). n.d. Emergency Services: Operations Division. Accessed March 16, 2017. http://www.cccfpd.org/emeregencyservices.php

_____. 2012a. Contra Costa County Fire Protection District Service Reduction and Fire Station Closure Plan. December 2012. Accessed June 30, 2013. http://www.cccfpd.org/upfile/ParcelTax/Service%20Reduction%20and%20Fire%20Station%20Closure%20Plan.pdf

_____. 2012b. Fire Station Closures. Accessed July 1, 2013. http://www.cccfpd.org/upfile/ParcelTax/Fire%20Station%20Closure%20Message.pdf

_____. 2013. CCCFPD Website. Accessed June 30, 2013. http://www.cccfpd.org.

CCCSD (Central Contra Costa Sanitary District). 2009. Collection System Operations (CSO). http://www.centralsan.org/index.cfm?navId=156

CCCWP (Contra Costa Clean Water Program). 2012. Stormwater C.3 Guidebook: Stormwater Quality Requirements for Development Applications. 6th ed. http://www.cccleanwater.org/Publications/Guidebook/Stormwater_C3_Guidebook_6th_Edition.pdf

CCTA (Contra Costa Transportation Authority). 2013a. Congestion Management. Accessed August 5, 2013. http://www.ccta.net/EN/main/planning/congestionmngmnt.html

_____. 2013b. 2004 Measure J. Accessed August 7, 2013. http://www.ccta.net/sources/detail/2/1

_____. 2013c. Measure J Projects. Accessed August 7, 2013. http://www.ccta.net/EN/main/state/162/measurej-projects.html

_____. 2013d. Contact Report by Christy Herron ,CCTA. "Matt Kelly discussion on Traffic Analysis for EIS: Models and Methodologies." May 3, 2013.

_____. 2015. Update to the Contra Costa Congestion Management Program. Accessed March 16, 2017. http://www.ccta.net/uploads/580f8b8a28c38.pdf

_____. 2016. Measure J Strategic Plan. Accessed March 16, 2017. http://www.ccta.net/uploads/572902dd8be32.pdf

CCWD (Contra Costa Water District). 2006. *Annual Report 2006*. http://www.ccwater.com/files/annualreport06.pdf

_____. 2007. Randall-Bold Water Treatment Plant. http://www.ccwater.com/files/randallboldbrochure.pdf/

_____. 2015. *2015 Annual Report*. Accessed March 27, 2017. http://www.ccwater.com/ArchiveCenter/ViewFile/Item/259 11

_____. 2016. 2015 Urban Water Management Plan for the Contra Costa Water District. June 2016. Accessed March 27, 2017. http://www.ccwater.com/DocumentCenter/Home/View/2216

Central Contra Costa Solid Waste Authority 2016. RecycleSmart Approved Construction & Demolition (C&D) Processing Facilities. November 7, 2016. Accessed March 25, 2017. http://www.cccounty.us/DocumentCenter/View/44986

CEQ (Council on Environmental Quality). 1997a. Environmental Justice: Guidance under the National Environmental Policy Act. Accessed July 3, 2013. http://www.epa.gov/compliance/ej/resources/policy/ej_guidance_nepa_ceq1297.pdf

_____. 1997b. Considering Cumulative Effects under the National Environmental Policy Act. Council on Environmental Quality, Executive Office of the President. January 1997.

_____. 2011. Memorandum for Heads of Federal Departments and Agencies: Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact. http://ceq.hss.doe.gov/current_developments/docs/Mitigation_and_Monitoring_Guidance_14Jan2011.pdf

_____. 2016. Memorandum for Heads of Federal Departments and Agencies: Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Review. August 1, 2016. Accessed August 19, 2016. https://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/ghg-guidance

CEQA (California Environmental Quality Act). 2017a. CEQAnet Database Query: Contra Costa County http://www.ceqanet.ca.gov/QueryForm.asp [Filter by CA State Lands Commission – Lead Agency]. Accessed January 12, 2017.

_____. 2017b. Shell Greenhouse Gas Reduction Project. http://www.ceqanet.ca.gov/ProjDocList.asp?ProjectPK=631838. Accessed January 19, 2017.

CGS (California Geological Survey). 2002a. California Geomorphic Provinces, Note 36. Accessed July 2, 2013. http://www.consrv.ca.gov/CGS/information/publications/cgs_notes/note_36/note_36.pdf

_____. 2002b. California Historical Earthquakes within 50 KM of Concord. Accessed April 15, 2014. http://redirect.conservation.ca.gov/cgs/rghm/quakes/historical/hiseq.asp?Longitude=-122.030&Latitude=37.978&Town=Concord

_____. 2007. Alquist-Priolo Earthquake Fault Zones. Accessed June 28, 2013. http://www.consrv.ca.gov/cgs/rghm/psha/fault_parameters/htm/Pages/faultdata1.aspx

_____. 2010. Fault Activity Map of California, Geologic Data Map No. 6, Compilation and Interpretation. Charles W. Jennings and William A. Bryant. Accessed June 28, 2013. http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html

Chazan, D. 2017. Email dated February 21, 2017, from Dahlia Chazan (Arup Northamerica) to Erica Spinelli (NAVFAC HQ) re: City of Concord comments on the FEIS, Version 1: Requesting traffic call and GIS data.

ChaduxTt. 2011. *Feasibility Study for Installation Restoration Site 22A, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California*. March 9, 2011. Prepared for Department of the Navy, BRAC Program Management Office West.

Chen, Alice. 2016. Principal Planner, Kittelson & Associates, Inc. Pers. Comm. and Excel file "Volume Comparison Table" via email with Amy DiCarlantonio, Ecology and Environment, Inc., January 22, 2016.

CH2M Hill. 1997. *Closure and Summary Report for the RCRA Corrective Action for SWMUs 13, 16, and 40 and Cleaning of Various Septic Tanks at Naval Weapons Station Concord*. April 1997. Oakland, California.

_____. 2007. Technical Memorandum: Summary of Aquatic Field Reconnaissance Survey at the CNWS Inland Unit on February 15, 2007. June 1, 2007.

_____. 2008a. Technical Memorandum: Field Reconnaissance Surveys, Concord Community Reuse Project, Contra Costa County, California. February 2008.

_____. 2008b. Technical Memorandum: Flow Gage Installation and Hydrology Evaluation at the Concord Naval Weapons Station, Inland Area. September 2008.

_____. 2008c. Technical Memorandum: Sediment Transport Assessment at the Concord Naval Weapons Station, Inland Area. September 2008.

_____. 2008d. Technical Memorandum: Water Temperature Monitoring at the Concord Naval Weapons Station, Inland Area. September 2008.

_____. 2008e. Technical Memorandum: Fish Passage Assessment of Existing Stream Crossing Structures at the Concord Naval Weapons Station, Inland Area. September 2008.

_____. 2008f. Technical Memorandum: Wildlife Movement, Concord Community Reuse Plan. March 2008.

Children's Hospital & Research Center Oakland. n.d. Children's Hospital Oakland – Walnut Creek Campus. Accessed April 7, 2014. http://www.childrenshospitaloakland.org/main/maps-locations/4.aspx

City of Benicia. 2015. Valero Benicia Crude By Rail Project Revised DEIR. August 2015. http://www.slocounty.ca.gov/Assets/PL/Santa+Maria+Refinery+Rail+Project+Comments+2+(PostEIR)/Post+EIR+Comments/Letter+from+Adams+Broadwell+Joseph+and+Cardozo+03_09_2016/Attachment+A+-+Fox+Comments/Ex.+33+$!5bfn+39$!5d.pdf Accessed January 16, 2017.

City of Clayton. 2016. Environmental Reviews. http://ci.clayton.ca.us/departments/community/environmental-reviews/. Accessed January 18, 2017.

City of Concord. 2002. Trail Plan Map. Accessed September 11, 2013.

_____. 2007. Proposed Alternative Concepts, Concord Community Reuse Plan. City Council Meeting, October 9, 2007.

_____. 2008. *Concord Community Reuse Project Draft EIR.*

_____. 2010. *Final Environmental Impact Report (FEIR). Concord Community Reuse Plan.* January 2010. State Clearinghouse Number 2007052094. Concord, California.

_____. February 2010. *Mitigation Monitoring and Reporting Program for Concord Community Reuse Project*. Prepared by Arup. February 2, 2010.

_____. May 2012. *Concord 2030 General Plan*. Concord, California.

_____. January 2012a. *Final Environmental Impact Report Addendum and Initial Study of Environmental Significance for the Concord Reuse Project Area Plan*. January 24, 2012. Concord, California.

_____. January 2012b. *Concord Reuse Project Area Plan. Book One: Vision and Standards.* Adopted January 24, 2012.

_____. January 2012c. *Concord Reuse Project Area Plan. Book Two: Technical Chapters.* Adopted January 24, 2012.

_____. February 2012. "Legally Binding Agreement: Food Bank and Employment Training Center: February 2012 Version" Accessed May 18, 2014. http://www.concordreuseproject.org/pdf/has/HAS_Foodbank_2012.pdf

_____. May 2012. "Land Transfer for Homeless Units May 18 2012 Version: Legally Binding Agreement" Accessed on May 18, 2014. http://www.concordreuseproject.org/pdf/has/HAS_Assistance_2012.pdf

_____. November 13, 2012. Concord Alternatives Summary, November 9, 2012, as provided by Michael Wright, City of Concord, via email on November 13, 2012.

_____. November 16, 2012. Letter to the U.S. Army Corps of Engineers, San Francisco District, regarding the Concord Reuse Project Area Plan, Section 404 Permit Application.

_____. 2013a. *City of Concord Citywide Climate Action Plan*. Public Review Draft. March 2013. Finalized July 23, 2013. Accessed June 5, 2014. http://www.cityofconcord.org/pdf/dept/planning/EIR/climate_study_review.pdf

_____. 2013b. City of Concord Municipal Code Chapter 86 Stormwater Management and Grading and Erosion Control. http://www.ci.concord.ca.us/citygov/municode/chapter086.htm

_____. 2013c. *Biological Assessment for the Concord Reuse Project Area Plan, Concord, California*. Addressing the Central California Coast Steelhead, California Tiger Salamander, California Red-Legged Frog, Alameda Whipsnake, and San Joaquin Kit Fox. Prepared for the City of Concord. May 10, 2013.

_____. 2014. Concord Municipal Code. A Codification of the General Ordinances of the City of Concord, California. Current through February 11, 2014. http://codepublishing.com/ca/concord/

_____. 2015. Adopted Biennial Operating Budget FY 2015-16 and FY 2016-17. Adopted by Concord City Council Resolution NO. 15-45 on June 23, 2015. Accessed March 28, 2017. http://www.cityofconcord.org/page.asp?pid=5031.

_____. 2016a. Bicycle, Pedestrian & Safe Routes to Transit Plan. http://www.cityofconcord.org/pdf/projects/transit/sr2t042016.pdf. Accessed March 21, 2017.

_____. 2016. Current Projects Report. http://www.cityofconcord.org/pdf/dept/planning/cpr-public.pdf. Accessed January 18, 2017.

_____. n.d.(a) CIP (Capital Improvement Program) Projects – CIP Projects in Construction. Accessed April 1, 2014. http://www.cityofconcord.org/pdf/pw/projects/construction.pdf

_____n.d.(b) "Industrial and Commercial Site and Building." http://concord.zoomprospector.com/ Accessed on March 29, 2017.

City of Concord Finance Department. 2016. City of Concord, Comprehensive Annual Financial Report for Year Ending June 30, 2016. http://www.cityofconcord.org/pdf/dept/finance/reports/CAFR_2016/2016_CAFR_All_Chapters.pdf. Accessed on March 8, 2017.

_____ n.d. City of Concord Adopted Budget for FY 2016-2017.http://www.cityofconcord.org/pdf/dept/finance/budget/budget2015_2017/BudgetSummary.pdf Accessed March 28, 2017.

City of Martinez. 2016. Public Notice of Intent to Adopt a Mitigated Negative Declaration. Jardine on Morello. Public comment period start date: July 6, 2016. http://www.cityofmartinez.org/civicax/filebank/blobdload.aspx?BlobID=13152. Accessed April 26, 2017.

_____. 2017. Development Review: Pending Development Projects & Ordinance Amendments. http://www.cityofmartinez.org/depts/planning/development.asp. Accessed January 18. 2017.

City of Pittsburg. 1992. Final Subsequent Environmental Impact Report for the San Marco Subdivision. City of Pittsburg Subdivision #7362. Prepared for the City of Pittsburg by Wagstaff and Associates. October 1992. http://www.ci.pittsburg.ca.us/Modules/ShowDocument.aspx?documentid=1366. Accessed January 19, 2017.

_____. 2001. Pittsburg 2020: A Vision for the 21st Century. City of Pittsburg City Council Resolution No. 01-9490. Last amended in 2011. Accessed July 3, 2013. http://www.ci.pittsburg.ca.us/index.aspx?page=228

_____. 2003. Revised Draft Environmental Impact Report, Bailey Estates. Prepared by Darwin Myers Associates. SCH #2001022016. August 2003.

_____. 2013a. Recirculated Draft Environmental Impact Report. WesPac Pittsburg Energy Infrastructure Project. State Clearinghouse No. 2011072053. Volume 1. Pittsburg, California. July 2013.

_____. 2013b. WesPac Pittsburg Energy Infrastructure Project Recirculated Draft EIR: Chapter 4.0 Air Quality. Accessed April 25, 2017. http://www.ci.pittsburg.ca.us/Modules/ShowDocument.aspx?documentid=5672

_____. 2014. Notice of Preparation of a Draft Environmental Impact Report (EIR) for the Proposed Faria/Southwest Hills Annexation Project. Pittsburg, California. March 7, 2014.

_____. 2017a. Environmental Review. Accessed January 13, 2017. http://www.ci.pittsburg.ca.us/index.aspx?page=225.

_____. 2017b. Project Pipeline List. Accessed January 18, 2017. https://app.smartsheet.com/b/publish?EQBCT=0af19f7941c94a9f8407285ae7e06827.

_____. 2017c. WesPac Pittsburg Energy Infrastructure Project. http://www.ci.pittsburg.ca.us/index.aspx?page=700. Accessed January 16, 2017.

_____. n.d. Zoning Ordinance of the City of Pittsburg. Accessed July 3, 2013: http://www.codepublishing.com/ca/pittsburg/

City of Pleasant Hill. 2017a. City of Pleasant Hill Current Project List: Status of Major Planning Applications Currently Under Review for Land Use Entitlements. January 2017. Prepared by Planning Division. http://www.ci.pleasant-hill.ca.us/128/Current-Planning-Projects. Accessed March 22, 2017.

_____. 2017b. City of Pleasant Hill Planning Division Interactive Map. http://www.ci.pleasant-hill.ca.us/128/Current-Planning-Projects. Accessed March 23, 2017.

City of Walnut Creek. 2016. Project Pipeline List-Quarterly Report. 2016. Project Status as of December 31, 2016. http://www.walnut-creek.org/departments/community-and-economic-development/planning-zoning/new-development-projects [see "Project Pipeline]. Accessed March 22, 2017.

CNPS (California Native Plant Society). 2014. Locally Rare Plants. Accessed March 27, 2014. http://www.cnps.org/cnps/rareplants/locally_rare.php

Contra Costa County. 2009. Draft Environmental Impact Report, Air Products Local Area Pipeline Network Project. Prepared for Contra Costa County Department of Conservation and Development. Martinez, California. Prepared by ENTRIX, Inc. SCH #2009032014. September 2009.

_____. 2010. *General Plan 2005-2020*. Contra Costa County Department of Conservation and Development. Martinez, California. January 18, 2005 (reprint July 2010). Accessed July 1, 2013. http://contra.napanet.net/depart/cd/current/advance/GeneralPlan/General%20Plan.pdf.

_____. 2011a. Final Environmental Impact Report, Local Area Pipeline Network Project. Prepared for Contra Costa County Department of Conservation and Development. Martinez, California. SCH #2009032014. March 2011.

_____. 2011b. Final Environmental Impact Report, Shell Crude Tank Replacement Project. Prepared for Contra Costa County Department of Conservation and Development. Martinez, California. SCH No. 2010022034. County File No. LP10-2006. October 2011.

_____. 2012. Contra Costa County Draft Climate Action Plan. Community Development Division. December 2012.

_____. 2013a. About the Flood Control District. Accessed July 3, 2013. http://www.co.contra-costa.ca.us/index.aspx?NID=2593

_____. 2006-2013. County Watershed Program--Title 1014--Stormwater Management and Discharge Control. Accessed July 9, 2013. http://ca-contracostacounty.civicplus.com/index.aspx?nid=344

_____. 2016. "County of Contra Costa, California Comprehensive Annual Financial Report for the Year Ending June 30, 2016." http://www.co.contra-costa.ca.us/DocumentCenter/Home/View/43845. Accessed March 8, 2017.

_____. 2017. CalGreen/Construction & Demolition Debris Recovery Program. Accessed March 25, 2017: http://www.cccounty.us/4746/CalGreen-Construction-Demolition-Debris-

_____. n.d (a). Zoning Ordinance. Accessed July 1, 2013: http://library.municode.com/index.aspx?clientId=16286

_____. n.d (b). Keller Canyon Landfill. Application to Amend Land Use Permit. Accessed May 21, 2014. http://www.cccounty.us/4984/Keller-Canyon-Landfill

_____. n.d (c). Project List. http://cacontracostacounty2.civicplus.com/4263/Projects. Accessed January 18, 2017.

Contra Costa Environmental Health. 2009. Solid Waste Facility Permit Number 07-AA-0032. Keller Canyon Landfill. Issued December 14, 2009. Concord, California.

Contra Costa LAFCO. 2008. Water and Wastewater Municipal Services Review for Central Contra Costa County. April 2008. Accessed July 3, 2013. http://www.contracostalafco.org/municipal_service_reviews/central_county_water_wastewater/2.0%20Concord%20Water%20Wastewater%20Final.pdf

_____. 2011. Municipal Service Review: Law Enforcement Services. Report to the Contra Costa Local Agency Formation Commission. Prepared by Baracco & Associates Policy Consulting Associates, LLC. September 7.

Contra Costa Resource Conservation District. 2006. *Mount Diablo Creek Watershed Assessment*.

County Connection. n.d. Maps & Schedules. Accessed March 27, 2014. http://countyconnection.com/maps-schedules/

CSLC (California State Lands Commission). 2014a. Final Environmental Impact Report for the Tesoro Amorco Marine Oil Terminal Lease Consideration. Sacramento, California. SCH Number: 2012052030. CSLC EIR Number: 760. Prepared by TRC Solutions, Inc. February 2014.

_____. 2014b. Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting for the Tesoro Amorco Marine Oil Terminal Lease Consideration. SCH No. 2014042013, CSLC EIR No. 761, PRC 3454.1, W30068.19. Sacramento, California. April 2, 2014.

_____. 2015. Final EIR for the Tesoro Avon Marine Oil Terminal Lease Consideration. January 2015. http://www.slc.ca.gov/info/CEQA/Avon.html. Accessed January 19, 2017.

CTC (California Transportation Commission). 2013. CTC Mission Statement and Background. Accessed March 28, 2014. http://www.catc.ca.gov/mission.htm

_____. 2016. 2016 STIP Adoption with Changes. Accessed March 13, 2017: http://www.catc.ca.gov/programs/STIP/2016_STIP/2016_STIP_Adoption_with_Changes_051816.pdf

DOD (U.S. Department of Defense). 2006. *Base Redevelopment and Realignment Manual. DOD 4165.66-M*. Office of the Deputy Under Secretary of Defense, Installations and Environment. Washington, DC. March 1, 2006.

_____. 2014. DOD 2014 Climate Change Adaptation Roadmap. October 13, 2014. Accessed July 14, 2016. http://www.denix.osd.mil/sustainability/plansguidance/unassigned/department-of-defense-fy-2014-climate-change-adaptation-roadmap

_____. 2016a. Directive 4715.21, Climate Change Adaptation and Resilience. January 14, 2016. Accessed July 4, 2016. http://www.defense.gov/Portals/1/Documents/pubs/471521p.pdf

_____. 2016b. Department of Defense 2016 Operational Energy Strategy. Accessed March 29, 2016. http://www.acq.osd.mil/eie/Downloads/OE/2016%20OE%20Strategy_WEBd.pdf

_____. 2016c. Department of Defense, Strategic Sustainability Performance Plan FY 2016. Accessed January 9, 2017. http://www.denix.osd.mil/sustainability/dod-sspp/unassigned/department-of-defense-strategic-sustainability-performance-plan-fy-2016/

Downard, Giselle T., P. Guertin, and M. Morrison. 1999. Characterization of Wildlife and Plant Communities for Naval Weapons Station Seal Beach, Detachment Concord. Submitted to the Department of Navy, Natural Resources Management Branch, Engineering Field Activity, West Naval Facilities Command by the University of Arizona Advanced Resource Technology Group, School of Renewable Natural Resources. March 1996.

DTSC (Department of Toxic Substances Control). 1992. RCRA Facility Assessment. June 1992. Berkeley, California.

_____. 2003. Approval of Closure Report and Certification for Concord Naval Weapons Station, Concord, California, EPA ID No. CA 7 170 024 528. Letter from Mohinder S. Sandhu, P.E., Chief, Standardized Permits and Corrective Action Branch, DTSC, to Randy Cate, Engineer in Charge, Department of the Navy, Engineering Field Activity West, Naval Facilities Engineering Command. Berkeley, California. June 27, 2003.

_____. 2007. DTSC signatory page to June 2001 Federal Facility Agreement (see reference EPA 2001). DTSC signature dated May 14, 2007.

_____. 2010. Letter from Jim Pinasco, Hazardous Substances Engineer, DTSC, to Scott Anderson, BRAC Environmental Coordinator, BRAC Program Management Office West. Re: Final Site Inspection Report for the Black Pit at Red Rock and HE5. December 27, 2010. Sacramento, California.

_____. n.d. EnviroStor Database. Search area: Concord, California. Accessed January 13, 2017. http://www.envirostor.dtsc.ca.gov/public/.

East Bay Economic Development Alliance. 2010. Contra Costa County Largest Employers. Accessed July 11, 2013. http://eastbayeda.org/research_facts_figures/charts/largest_employers_Contra_Costa_County.htm

East Contra Costa County Habitat Conservancy. 2006. *Final East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan*. Accessed March 27, 2014. www.co.contra-costa.ca.us/depart/cd/water/hcp/archive/final-hcp-rev/final_hcp_nccp.html and

_____. 2014. East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan Annual Report 2013. April 2014.

_____. June 2016. East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan Annual Report 2015. http://www.co.contra-costa.ca.us/depart/cd/water/HCP/news/2015_AnnualReport.pdf. Accessed January 18, 2017.

_____. June 2016. East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan Annual Report 2015. http://www.co.contra-costa.ca.us/depart/cd/water/HCP/documents/Annual%20Reports%20and%20YIRs/2015_Annual Report.pdf. Accessed on April 18, 2017.

EBRPD (East Bay Regional Park District). 2013a. Master Plan 2013. Adopted July 16, 2013. Resolution No. 2013-07-159. Oakland, California.

_____. 2013b. Public Notice for Black Diamond Mines Regional Preserve Public Input and Environmental Scoping Meeting. November 14, 2013. Antioch, California.

_____. 2014. Stewardship/Resources. Accessed July 23, 2014. http://www.ebparks.org/stewardship

_____. 2014a. 2014 Adopted Operating Budget. Accessed August 4, 2014. http://www.ebparks.org/about/budget#about-2013-budget.

_____. 2014b. About Us. Accessed August 4, 2014. http://www.ebparks.org/about.

_____. 2014c. Budget and Finances. Accessed August 4, 2014. http://www.ebparks.org/about/budget#about-2013-budget.

_____. 2014d. Park Planning. Accessed January 9, 2017: http://www.ebparks.org/planning.

_____.2016. Planning Area- Land Use Plan Amendment. Black Diamond Mines Regional Preserve. http://www.ebparks.org/Assets/_Nav_Categories/Park_Planning/Black+Diamond/BD3+Planning +PPT.pdf. Accessed January 19, 2017.

_____. 2017. Concord Hills Regional Park – Creating a World Class Regional Park on a Former Military Base. Accessed January 9, 2017. http://www.ebparks.org/about/planning/cnws.

_____. n.d. Park Planning. http://www.ebparks.org/about/planning#black-d. Accessed January 19, 2017.

ECC-Insight LLC. 2014. Action Memorandum, IA-100 Storage Areas, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. Internal Draft. March 2014. Prepared for BRAC Program Management Office West. Burlingame, California.

Ecology and Environment, Inc. 1983. *Initial Assessment Study of Naval Weapons Station, Concord, California. NEESA I3-OI3.* June 1983. Prepared for Naval Energy and Environmental Support Activity. San Francisco, California.

Ecology and Environment, Inc., and Foothill Associates. 2009. *Least Bell's Vireo Survey Report – In Support of the Environmental Impact Statement (EIS) for Disposal and Redevelopment of the Former Naval Weapons Station Seal Beach Detachment. Concord, California*. October 7, 2009. Prepared for NAVFAC Southwest, Environmental Contracts Core – BRAC Code R08B2. Prepared by: Ecology and Environment, Inc., and Foothill Associates.

Ecology and Environment, Inc., and Swaim Biological, Inc. 2009. *Alameda Whipsnake Habitat Assessment in Support of the Environmental Impact Statement (EIS) for Disposal and Redevelopment of the Naval Weapons Station Seal Beach Detachment Concord, California*. Prepared for NAVFAC Southwest Environmental Contracts Core, BRAC Code R06B2.

Ecorp Consulting, Inc. 2004. 90-Day Report of Findings Regarding Federally-Listed Brachiopods for Naval Weapons Station (NWS) Seal Beach, Detachment Concord. June 9, 2004.

EDAW. 2008. *Final California Tiger Salamander Upland Habitat Study Report, Naval Weapons Station Seal Beach Detachment*.

Education Data Partnership. 2016. Fiscal, Demographic, and Performance Data on California's k-12 Schools. 2011-2016. Mount Diablo Unified School District: Enrollment Trends. Accessed March 28, 2016. http://www.ed-data.org/district/Contra-Costa/Mt.-Diablo-Unified

_____. 2013. Mt. Diablo Unified School District 2011-12: Certified Staff. Accessed April 3, 2014: http://www.ed-data.k12.ca.us/App_Resx/EdDataClassic/fsTwoPanel.aspx?#!bottom=/_layouts/EdDataClassic/profile.asp?Tab=2&level=06&reportnumber=16&county=07&district=61754&school=0000000

Environmental Cost Management, Inc., and Engineering Remediation Resources Group, Inc. 2013. *Munitions and Explosives of Concern, Quality Assurance Project Plan for Munitions Response Program, Site Inspection at Rocket Practice Area, Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California. Final*. November 2013. Prepared for Naval Facilities Engineering Command Southwest. Costa Mesa, California, and Martinez, California.

EO (Executive Order) 13653. 2013. EO 13653 - Preparing the United States for the impacts of climate change. November 6, 2013. Accessed July 5, 2016. https://www.gpo.gov/fdsys/pkg/FR-2013-11-06/pdf/2013-26785.pdf

EO 13693. 2015. Planning for federal sustainability in the next decade. March 19, 2015. https://www.fedcenter.gov/programs/eo13693/

EPA (U.S. Environmental Protection Agency). 1978. *Protective Noise Levels*. Condensed Version of EPA Levels Document. EPA 500/9-79-100. November 1978.

_____. 2001. Federal Facility Agreement under CERCLA Section 120. Naval Weapons Station Seal Beach Detachment Concord, Concord, California. United States Environmental Protection Agency Region 9, and the State of California, and the United States Department of the Navy. June 12, 2001. Accessed July 29, 2013. http://www.epa.gov/superfund/sites/iag/i01-09001.pdf

_____. 2002. Comprehensive Environmental Response, Compensation, and Liability Act of 1980. "Superfund." December 31, 2002. 42 U.S.C. §9601 *et seq*. U.S. Senate version. Accessed March 10, 2013. http://epw.senate.gov/cercla.pdf

_____. 2003. Protecting Water Quality from Urban Runoff. EPA 841-F-03-003. February 2003. http://cfpub.epa.gov/npstbx/files/NPS_Urban-facts_final.pdf.

_____. 2010. Letter from Melinda Garvey, Remedial Project Manager, EPA Region 9, to Kathryn Stewart, P.E., BRAC Environmental Coordinator, BRAC Program Management Office West. Re: U.S. EPA Concurrence No Further Action, Black Pit at Red Rock and Burn Area Near HE5 (5AT) Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. April 22, 2010. San Francisco, California.

_____. 2013. Environmental Justice Program and Civil Rights. Accessed July 3, 2013. http://www.epa.gov/region1/ej

_____. 2014. National Greenhouse Gas Emission Data, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2012 (April 2014). Accessed August 7, 2014. http://epa.gov/climatechange/ghgemissions/usinventoryreport.html#fullreport

_____. 2016a. Climate change indicators in the United States, 2016. Fourth edition. EPA 430-R-16-004. Accessed August 9, 2016. https://www.epa.gov/climate-indicators.

_____. 2016b. Summary of the Energy Policy Act 2005. Updated February 8, 2016. Accessed June 30, 2016: https://www.epa.gov/laws-regulations/summary-energy-policy-act.

_____. 2016c. Climate change regulatory initiatives. Updated August 9, 2016. https://www3.epa.gov/climatechange/EPAactivities/regulatory-initiatives.html.

_____. 2017. Superfund Enterprise Management Systems database. Search area: Contra Costa County. Accessed January 13, 2017. https://cumulis.epa.gov/supercpad/CurSites/srchsites.cfm

ESA PWA. 2011. *Concord Community Reuse Project: A Conceptual Plan for Restoration and Flood Management*. Prepared for the City of Concord. May 19, 2011.

_____. 2012. *Mt. Diablo Creek Streamflow Monitoring Report, Water Year 2011, Concord Naval Weapons Station, California*. Prepared for the City of Concord. April 2, 2012.

Far Western and JRP (Far Western Anthropological Research Group, Inc., and JRP Historical Consulting Services, Inc.). 2002. *Naval Weapons Station, Seal Beach, Detachment Concord, Integrated Cultural Resources Management Plan for the years 2002-2007, Volume I of II*. March 2002. Submitted to Engineering Field Activity, West, Naval Facilities Engineering Command, San Bruno, California.

FEMA (Federal Emergency Management Agency). 2009. FEMA Map Service Center, Current FEMA-Issued Flood Maps for the City of Concord (FIRMs: 06013C0095F, 06013C0282F, and 06013C0301F). Accessed July 3, 2013. https://msc.fema.gov/webapp/wcs/stores/servlet/CategoryDisplay?storeId=10001&catalogId=10001&langId=-1&categoryId=12001&parent_category_rn=12001&type=CAT_MAPPANEL&stateId=13011&countyId=13252&communityId=338602&stateName=CALIFORNIA&countyName=CONTRA+COSTA+COUNTY&communityName=CONCORD%2CCTY%2FCONTRA+COSTA+CO&dfirm_kit_id=&future=false&dfirmCatId=12009&isCountySelected=&isCommSelected=&userType=G&urlUserType=G&sfc=0&cat_state=13011&cat_county=13252&cat_community=338602

FHA (Federal Highway Administration). 2001. Hydraulic Design Series Number 5: Hydraulic Design of Highway Culverts. Publication No. FHWA-NHI-01-020. http://isddc.dot.gov/OLPFiles/FHWA/012545.pdf

_____. 2011. *Highway Traffic Noise: Analysis and Abatement Guidance*. FHWA-HEP-10-025. December 2011. Original June 2010 and revised December 2010. http://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf

Federal Interagency Working Group on Environmental Justice and NEPA Committee. 2016. *Promising Practices for EJ Methodologies in NEPA Reviews.*

Flak, Pamela. 2016. "U.S. joins 174 nations to sign hard-won climate pact." CBS News Website, April 22, 2016. Accessed June 30, 2016. http://www.cbsnews.com/news/us-climate-pact-un-signing-ceremony-paris-agreement-cop21

Flyingemu. 2014a. Contra Costa County, CA, Breeding Bird Atlas. Accessed May 8, 2014. http://www.flyingemu.com/ccosta/goea.html

_____. 2014b. Contra Costa County, CA, Breeding Bird Atlas. Accessed May 8, 2014. http://www.flyingemu.com/ccosta/swha.html

Foulk, Patricia. 2001. "Critical Habitat Designated for California Red-Legged Frog." Pacific Region News Release, USFWS. March 6, 2001. Sacramento, California. http://www.fws.gov/r9extaff/renews.html

GAO. 2003. Climate Change: Trends in Greenhouse Gas Emissions and Emissions Intensity in the United States and other High-Emitting Nations. October 28, 2003. Accessed September 24, 2014. http://www.gao.gov/new.items/d04146r.pdf

Garcia-Herbst, Arleen, and Micah Hale. 2008. *Final Report for Concord Inland BRAC Disposal Archaeological Survey, Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California*. April 2008. Prepared by Arleen Garcia-Herbst, Senior Archaeologist, and Micah Hale, Senior Archaeologist, ASM Affiliates, Inc., Carlsbad, California. Prepared for VAVGAC SW, San Diego, California, under Contract No. N68711-04-D-3620, Task Order 0015.

Grace, Richard. 2017. Contra Costa County Fire Protection District. Personal Communication with Amy DiCarlantonio, Ecology and Environment, Inc. March 27, 2015.

Harris, Kamala D. 2014. Personal communication: letter to Kristin V. Pollot, City of Pittsburg, Planning Department, re. "Recirculated Environmental Impact Report for the WesPac Pittsburg Energy Infrastructure Project (SCH # 2011072053)." State of California, Department of Justice. Oakland, California.

Herbert, Rand, and Polly Allen. 2013. *Final Historic Building Inventory and Evaluation Update Report, Inland Area, Concord Naval Weapons Station, Contra Costa County, California*. April 2013. Prepared by Rand Herbert and Polly Allen, RP Historical Consulting, LLC, Davis, California. Submitted to NAVFAC Southwest, San Diego, California.

Hicks, Jane. 2011. Pers. comm. Chief Regulatory Division, U.S. Army Corps of Engineers, San Francisco District. Letter to Michael Wright, City of Concord, dated November 8, 2011.Re: the jurisdictional determination for NWS Concord.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. State of California, The Resources Agency, Nongame Heritage Program, Dept. Fish & Game, Sacramento, Calif.

Holt, Brian. 2014a. EBRPD Senior Planner. re East Bay Regional Park District Comments on Navy Draft EIS for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord. November 25, 2014. Attachment "A," EBRPD Policies Applicable to Development of Regional Parks.

_____. 2014b. EBRPD Senior Planner. Pers. comm. with Jone Guerin, Christy Herron, and Rob Peterson from Ecology and Environment, Inc., and Erica Spinelli and Marvin Norman from the U.S. Department of the Navy. San Francisco, California. July 29, 2014.

H.T. Harvey and Associates. 2012. Concord Reuse Project – Area Plan: Conceptual Habitat Mitigation Plan for Wetland, Aquatic, and Riparian Habitats. August 13, 2012. Submitted as part of the November 16, 2012, Section 404 Permit Application.

ICC (International Code Council). 2009. *2009 International Building Code*.

ICF International. 2016. Final Report, Altamont Pass Wind Resource Area Bird Fatality Study, Monitoring Years 2005–2013. April. M107. (ICF 00904.08) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA. https://www.acgov.org/cda/planning/landuseprojects/documents/Final_APWRA_BirdFatalityStudy2005-2013_041816.pdf. Accessed January 19, 2017.

Institute for Public Administration. 2009. Demographic Multipliers in Delaware: June 2009. Institute for Public Administration, College of Human Services, Education & Public Policy, University of Delaware. By Troy Mix and Xuan Jiang. Accessed February 4, 2013. http://dspace.udel.edu:8080/dspace/bitstream/handle/19716/4279/DelMultipliers.pdf?sequence=1

IPCC (Intergovernmental Panel on Climate Change). 1995 Climate Change 1995: The Science of Climate Change. Contribution of working group I to the second assessment report of the Intergovernmental Panel on Climate Change. http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml

_____. 2014. *Climate Change 2014: Synthesis Report.* Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Core Writing Team, R.K. Pachauri and L.A. Meyer [eds.]). IPCC, Geneva, Switzerland.

John Muir Health. 2017. About Us. Accessed April 7, 2017. http://www.johnmuirhealth.com/about-john-muir-health.html

JRP (JRP Historical Consulting Services, Inc.). 1998. *Inventory and Evaluation of National Register Eligibility of Cold War Era and Selected Other Buildings and Structures, Weapons Station Seal Beach Detachment Concord, Contra Costa County, California*. Report submitted to U.S. Navy, Engineering Field Activity, West, San Bruno, California. Cited in the *Final Report for Concord Inland BRAC Disposal Archaeological Survey, Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California*. Prepared by Arleen Garcia-Herbst, Senior Archaeologist, and Micah Hale, Senior Archaeologist, ASM Affiliates, Inc., Carlsbad, California. Prepared for VAVGAC SW, San Diego, California, under Contract No. N68711-04-D-3620, Task Order 0015.

Kaiser Family Foundation. 2011a. Hospital Emergency Room Visits per 1,000 Population: California. Accessed at: http://kff.org/other/state-indicator/emergency-room-visits/

_____. 2011b. Hospital Admissions per 1,000 Population: California. http://kff.org/other/state-indicator/emergency-room-visits/

_____. 2011c. Hospital Outpatient Days per 1,000 Population: California. http://kff.org/other/state-indicator/emergency-room-visits/

_____. 2011d. Hospital Inpatient Days per 1,000 Population: California. http://kff.org/other/state-indicator/emergency-room-visits/

Keibel, J. 2001. Site Form for P-07-00860 and P-07-00861. Cited in the *Final Report for Concord Inland BRAC Disposal Archaeological Survey, Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California*. Prepared by Arleen Garcia-Herbst, Senior Archaeologist, and Micah Hale, Senior Archaeologist, ASM Affiliates, Inc., Carlsbad, California. Prepared for VAVGAC SW, San Diego, California, under Contract No. N68711-04-D-3620, Task Order 0015.

Kittelson & Associates, Inc. 2016. *Transportation Impact Study: Former Naval Weapons Station Seal Beach Detachment Concord.* Oakland, California.

Leavitt, Russel. 2013. Pers. Comm. Telephone conversation with Russel Leavitt, Engineering Assistant III, Central Contra Costa Sanitary District. September 5, 2013.

Lee, Alan K. 2014. March 3, 2014, letter from Alan K. Lee, Base Closure Manager by Direction of the Director, Department of the Navy, Base Realignment and Closure Program Management Office West, San Diego, California, to Tristan Tozer, California Department of Parks and Recreation, Office of Historic Preservation, Sacramento, California.

Leidy, Robert A., Gordon S. Becker, and Brett N. Harvey. 2005. *Historical Distribution and Current Status of Steelhead/Rainbow Trout* (Oncorhynchus mykiss) *in Streams of the San Francisco Estuary, California.* Center for Ecosystem Management and Restoration, Oakland, California.

Loredo, I., D. Van Vuren, and M. L. Morrison. 1996. "Habitat Use and Migration Behavior of the California Tiger Salamander." *Journal of Herpetology* 30:282-285.

Malcolm Pirnie, Inc. 2007. *Final Preliminary Assessment, Military Munitions Response Program, Naval Weapons Station Seal Beach Detachment Concord, Concord, California*. August 2007. Prepared for Naval Facilities Engineering Command Southwest. Emeryville, California.

Manley, William R. 2003. *Final Reevaluation of Eligibility for Listing in the National Register of Historic Places: World War II Munitions Depots at Seal Beach, Fallbrook, and Concord, California*. Prepared by William R. Manley, Regional Architectural Historian, with contributions by RECON, San Diego, California. Prepared for Southwest Division, Naval Facilities Engineering Command, San Diego California. Task Order 0019 under Contract N63387-98-D-5763. February 4, 2003.

Mathison. 2013. Personal communication. Email from Nancy Mathison, Arup, to Christy Herron, Ecology & Environment, Inc. Re: Concord NWS EIS: Arup Data Request. August 13, 2013.

Matter of Concord Disposal, Inc. 1992. File: B-246441.2. July 1992. http://redbook.gao.gov/11/fl0053760.php

MDUSD (Mount Diablo Unified School District). 2012. Resolution 12/13-27 Regarding Accounting of Development Fees. August 2008. Accessed July 1, 2013. http://www.mdusd.org/Departments/Fiscal/Documents/Resolution%2012%2013%2027.pdf

MDUSD (Mount Diablo Unified School District). 2016. Development Fee. Accessed March 16, 2017. http://www.mdusd.org/developfee

_____. n.d. Facts about MDUSD. Accessed April 3, 2014. http://www.mdusd.org/about/Pages/default.aspx

Mercalli XII, Inc. 2013. Mercalli XII Information. Accessed June 28, 2013. http://www.mercallixii.com/information/15-the-richter-scale.html

Mountain Cascade, Inc. 2009. Trenchless A-line Relief Receptor Phase 2A. http://www.mountaincascade.com/projects/mc0001/projtrenchless001.htm

MTC (Metropolitan Transportation Commission). 2013. About the Metropolitan Transportation Commission. Accessed August 7, 2013. http://www.mtc.ca.gov/about_mtc/about.htm

_____. 2016. Regional Transportation Improvement Program (RTIP). Accessed March 14, 2017: http://mtc.ca.gov/sites/default/files/%2100_2016%20RTIP%20Final_NoMapPPR.pdf

_____. 2017a. 2017 TIP. Accessed March 14, 2017. http://mtc.ca.gov/our-work/fund-invest/transportation-improvement-program-tip/2017-tip

_____. 2017b. Plan Bay Area 2040. Accessed March 14, 2017. http://planbayarea.org

Naval Sea Systems Command. 2010. *Final Historical Radiological Assessment, Use of General Radioactive Materials, 1945 to 2009, Former Naval Weapons Station Seal Beach Detachment Concord, Inland Area, Concord, California.* March 2010. Naval Sea Systems Command Detachment, Radiological Affairs Support Office. ECSD-3211-0005-0005. Yorktown, Virginia.

Navy (Department of the Navy). 2005. Naval Weapons Station Seal Beach Detachment Concord, Basewide Environmental Fact Sheet. March 2005. Integrated Product Team West.

_____. April 2006. *Final Environmental Condition of Property Report for the Naval Weapons Station Seal Beach Detachment Concord, Concord, California*. April 28, 2006. BRAC Program Management Office. San Diego, California.

_____. August 2006. *Department of the Navy Environmental Restoration Program Manual*. Accessed February 18, 2013. https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_nfesc_pp/environmental/erb/resourceerb/nerp_manual_2006(20070710).pdf

_____. March 2007. *The Department of the Navy Base Realignment and Closure Implementation Guidance*. *Appendix B. Building Vacating, Facility Layaway, and Caretaker Maintenance Guidance – Final*. Department of Navy, Base Realignment and Closure Program Office, March 23, 2007.

_____. April 2010. *Proposed Plan, Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Installation Restoration Site 22 Main Magazine Area, Concord, California*. BRAC Program Management Office West. San Francisco, California.

_____. July 2010. *Final Record of Decision for Solid Waste Management Units 2, 5, 7, and 18, Former Naval Weapons Station Seal Beach Detachment Concord Inland Area, Concord, California*. July 16, 2010. BRAC Program Management Office West. San Diego, California.

_____. October 2010. A Navy energy vision for the 21st century. October 2010. http://greenfleet.dodlive.mil/files/2010/10/Navy-Energy-Vision-Oct-2010.pdf.

_____. January 2012. *Proposed Plan for Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Installation Restoration Site 27, Concord, California*. BRAC Program Management Office West. San Diego, California.

_____. November 2012. *Final Proposed Plan for Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Installation Restoration Site 22A, Concord, California.* Navy BRAC Program Management Office West. San Diego, California.

_____. November 16, 2012. *Final Action Memorandum for Time-Critical Removal Action at Former Inland Burn Area/Railroad Sidings Excavation Area (UXO Sites 9 and 3), Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California*. BRAC Program Management Office West. San Diego, California.

_____. March 2013. Concord Site Status Update. March 26, 2013.

_____. June 2013. Letter to Mr. Dan Cordova, USFWS, Sacramento, California, from Kimberly Ostrowski, Base Closure Manager, Navy, BRAC PMO West, San Diego, California. 5090 Ser BPMOW/0343. June 21, 2013.

_____. July 2013. Navy Guidance for Compliance with the Clean Air Act General Conformity Rule. Office of the Chief of Naval Operations, Energy & Environmental Readiness Division. July 30, 2013.

_____. January 2014. Department of the Navy OPNAV 5090.1. Environmental Readiness Program Manual. January 10, 2014. Accessed August 11, 2014. http://www.navsea.navy.mil/Portals/103/Documents/SUPSALV/Environmental/OPNAVINST%205090-1D.pdf.

_____. July 2014. ASTs at Concord. Email from Kristina Madali, NAVFAC BRAC PMO West, to Jone Guerin, Ecology and Environment, Inc., concerning status of aboveground storage tanks at Concord. July 15, 2014. Email is in response to Scott Anderson (NAVFAC BRAC PMO HQ) July 7, 2014, comment on aboveground storage tank information in the preliminary DEIS version 1 (May 2014). Mr. Anderson's comment is included in this reference. San Diego, California.

_____. September 2016. Final Five-Year Review Report. Solid Waste Management Units (SWMUs) 2, 5, 7, and 18 and Installation Restoration (IR) Site 22A. Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. Prepared for Naval Facilities Engineering Command Southwest.

_____. November 2016. Former Naval Weapons Station Seal Beach Detachment Concord; Amendment to the Site Management Plan Schedule, Inland Area Sites. Draft Final. November 15, 2016.

Navy and DTSC (California Department of Toxic Substances Control). 2000. Memorandum of Agreement between the United States Department of the Navy and the California Department of Toxic Substances Control. Use of Model "Covenant to Restrict Use of Property" at Installations Being Closed and Transferred by the U.S. Department of the Navy. Signed March 10, 2000.

Nelson, Arthur. 2004. *Planner's Estimating Guide: Projecting Land-Use and Facility Needs*. Chapter 8, Water and Wastewater Utility Land-Use Needs. Planners Press.

Newmark Realty Capital, Inc. 2015. "2015 Bay Area Economic Engine." http://news.theregistrysf.com/wp-content/uploads/2015/11/BA-Economic-Engine-2015-6pg-version.pdf. Accessed March 13, 2017.

NRCS (Natural Resource Conservation Service). 2007. *National Soil Survey Handbook, Title 430-VI*. Accessed July 2, 2013. http://soils.usda.gov/technical/handbook/

Ostrowski, Kimberly A. January 30, 2013. Letter from Kimberly A. Ostrowski, Base Closure Manager by direction of the Director, Department of the Navy, Base Realignment and Closure Program Management Office West, San Diego, California, to Tristan Tozer, California Department of Parks and Recreation, Office of Historic Preservation, Sacramento, California.

Ovadia, Robert. 2013. City Engineer, Concord, California. Informational Report Concerning the Sewer Enterprise Fund Status and Projections, as Included in the Infrastructure and Franchise City Council Committee Agenda for November 14, 2013. http://www.ci.concord.ca.us/citygov/agendas/committees/if/2013/11142013.pdf

Phillips 66 Pipeline LLC. 2012. Biological Assessment. Phillips 66 Pipeline LLC. Line 200 Emergency and Proposed Repairs. Concord Naval Weapon Station. Contra Costa County, California. August 27, 2012. Long Beach, California.

PRC Environmental Management, Inc., and Montgomery Watson. 1993. *Naval Weapons Station Concord, California, Inland Area Sites, Site Investigation Report*. Draft. March 1993. San Francisco, California, and Walnut Creek, California.

Quimby, Jeff. 2014. Pers. Comm. Planning Manager, Contra Costa Water District. Email to Claire Hodgkins, Ecology and Environment, Inc., May 28, 2014.

Restoration Advisory Board. 2012. Draft Meeting Minutes, Restoration Advisory Board, Inland Area Environmental Restoration Program, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. October 3, 2012. Accessed August 8, 2013. http://www.bracpmo.navy.mil/base_docs/concord/documents/RAB_meeting_minutes/2012/100312_min.pdf..

Roland-Nawi, Carol, Ph.D. 2013. Pers. Comm. February 14, 2013. Carol Roland-Nawi, Ph.D., State Historic Preservation Officer, Office of Historic Preservation, Department of Parks and Recreation, Sacramento, California, to Kimberly A. Ostrowski, Acting Base Closure Manager, San Diego, California. Re: *Base Realignment and Closure Transfer, Naval Weapons Station Seal Beach Detachment Concord, Contra Costa County, CA*.

_____. 2014. Pers. Comm. January 23, 2014. Carol Roland-Nawi, Ph.D., State Historic Preservation Officer, Office of Historic Preservation, Department of Parks and Recreation, Sacramento, California, to Alan K. Lee, Department of the Navy, Base Closure Manager, Program Management Office West, San Diego, California. Re: *Base Realignment and Closure Transfer, Naval Weapons Station Seal Beach Detachment Concord, Contra Costa County, CA.*

San Francisco Bay RWQCB (Regional Water Quality Control Board). 2007a. RWQCB signatory page to June 2001 Federal Facility Agreement (see reference EPA 2001). RWQCB signature dated June 6, 2007.

_____. 2007b. *Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004*. Final Technical Report June 2007.

_____. 2011. Revised Tentative Order. Updated Waste Discharge Requirements, Water Quality Certification, and Rescission of Order No. 93-072: Potrero Hills Landfill.

_____. 2013. *San Francisco Bay Basin (Region 2) Water Quality Control Plan*. Incorporates all amendments approved by the Office of Administrative Law as of June 29, 2013.

_____. 2016a. Pers. Comm. Bruce Wolfe, Executive Officer, to Ben Terry, Chevron Environmental Management Company. Re: No Further Action for Historical Unocal Pipeline Release Site, Former Concord Naval Weapons Station, Concord, Contra Costa County. April 5, 2016. ID T10000007372.

_____. 2016b. Order No. R2-2016-0013, Adoption of Site Cleanup Requirements for: Phillips 66 Company, for the property located at: Concord Naval Weapons Station and 330 Holly Drive, Concord, Contra Costa County. June 6, 2016.

Sbranti, Joe. 2014. City Manager, City of Pittsburg, California. Pers. comm. To Art Diefenbach, WesPac Energy, Re. "WesPac Project Status, Review of Recirculated Draft EIR Comments." Pittsburg, California. February 18, 2014.

Self, William, Greg Matson, Carrie Wills, Norm Dyer, and Ann Samuelson. 1993. Cultural Resources Overview, Naval Weapons Station Concord, Contra Costa County, California. William Self Associates. Cited in the *Final Report for Concord Inland BRAC Disposal Archaeological Survey, Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California*. Prepared by Arleen Garcia-Herbst, Senior Archaeologist, and Micah Hale, Senior Archaeologist, ASM Affiliates, Inc., Carlsbad, California. Prepared for VAVGAC SW, San Diego, California, under Contract No. N68711-04-D-3620, Task Order 0015.

Shaffer, H. B., and R. Fisher. 1991. Final Report to the California Department of Fish and Game: California Tiger Salamander Surveys, 1990–Contract (FG 9422). California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Shaffer, H. B., and S. Stanley. 1992. Final Report to California Department of Fish and Game: California Tiger Salamander Surveys, 1991–Contract (FG 9422). California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Shell. 2014. "About Shell Martinez Refinery." Accessed May 28, 2014. http://www.shell.us/aboutshell/projects-locations/martinez/about.html

Smallwood, K.S. and M.L. Morrison, 2007. *A Monitoring Effort to Detect the Presence of the Federally Listed Species California Tiger Salamander and California Red-Legged Frog at the Naval Weapons Station, Seal Beach, Detachment Concord, California*. Prepared for U.S. Navy, Naval Facilities Engineering Command, South West.

Smallwood, K.S. and Neher, Lee. 2016. Siting Wind Turbines to Minimize Raptor Collisions at Sand Hill Repowering Project, Altamont Pass Wind Resource Area. March 15, 2016. https://www.acgov.org/cda/planning/landuseprojects/documents/SandHillAvianMicrositingReport_031516.pdf. Accessed January 19, 2017.

Smith, D. A., K. Ralls, B. L. Cypher, H. O. Clark, P. A. Kelly, D. F. Williams, and J. E. Maldonado. 2006. "Relative Abundance of Endangered San Joaquin Kit Foxes (*Vulpes macrotis mutica*) Based on Scat-detection Dog Surveys." *The Southwestern Naturalist* 51(2): 210-219.

Solano County Department of Resource Management. 2012. Solid Waste Facility Permit Number 48-AA-0075. Issued to Potrero Hills Landfill, Inc. February 14, 2012. Fairfield, California.

SWRCB (State Water Resources Control Board). 2010. *2010 Integrated Report [Clean Water Act 303(d) List/305(b)] Report*. Accessed July 2, 2013. http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml

_____. n.d. Waters of the State. Powerpoint presentation. http://www.waterboards.ca.gov/academy/courses/wqstandards/materials/water_us_ca/ca_water_042508.pdf.

Tesoro Corp. 2014. "Martinez, California. Martinez Refinery." Martinez, California. Accessed May 28, 2014. http://tsocorp.com/refining/martinez-calif/

Tetra Tech, Inc. 2002. *Integrated Natural Resources Management Plan and Environmental Assessment: Naval Weapons Station Seal Beach, Detachment Concord, California*.

_____. 2003. *Groundwater Sampling Summary Report for Sites 13 and 22, Naval Weapons Station Seal Beach Detachment Concord, Concord, California*. Draft Final. November 4, 2003.

_____. 2013. *Site Inspection Report – Building IA-27, Bermed Area, Building 81, Building IA-25 Outfeature, Northern Railroad Excavation A, and Northern Railroad Excavation B; Areas of Potential Interest, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California*. September 2013. Prepared for BRAC Program Management Office West. San Diego, California.

Tetra Tech EM, Inc. 2010. Final Site Inspection Report, Black Pit at Red Rock and Burn Area Near HE5 (5AT) No Further Action Sites, Military Munitions Response Program, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. June 30, 2010. Prepared for BRAC Program Management Office West. San Diego, California.

_____. 2013. Final Site Inspection Report, Building 93, IA-100 Storage Areas, Unocal Pipeline Site, Northern Railroad Excavation C, and Guam Way. Areas of Potential Interest, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. Prepared under subcontract to TriEco LLC. February 7, 2013. San Diego, California.

TRANSPAC. 2009. *Central County Action Plan for Routes of Regional Significance*. Adopted July 9, 2009. Accessed March 27, 2014. www.ccta.net/about/download/52977c9ad1b34.pdf

TRANSPLAN. 2009. *East County Action Plan for Routes of Regional Significance*. Final. Prepared by DKS Associates, Transportation Solutions. August 13, 2009. Accessed March 27, 2014: www.transplan.us/docs/ECAP-Final8-13-09.pdf

Transportation Research Board. 2010. 2010 Highway Capacity Manual (HCM2010). Transportation Research Board of the National Academy of Sciences. Washington, DC. Accessed April 20, 2016. http://hcm.trb.org/?qr=1

Trenham, P. C. 2001. "Terrestrial Habitat Use by Adult California Tiger Salamanders." *Journal of Herpetology* 35(2):343-346.

Trenham, P.C. and H. B. Shaffer. 2005. "Amphibian Upland Habitat Use and Its Consequences for Population Viability." *Ecological Applications* 15:1,158-1,168.

Trevet. 2012. *Final Action Memorandum for Non-Time-Critical Removal Action, Installation Restoration IR Site 24A, Former Pistol Range (UXO 0001A), Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California*. February 2012. Prepared for BRAC Program Management Office West. San Diego, California.

Tri Delta Transit. 2013. System Map. Accessed August 8, 2013. http://www.trideltatransit.com/local_bus.aspx

TriEco-Tt. 2012. *Final Action Memorandum for Time-Critical Removal Action at Guam Way Area of Potential Interest, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California*. November 30, 2012. Prepared for BRAC Program Management Office West. San Diego, California.

_____. 2016a. Preliminary Assessment/Re-verification Investigation Report for the Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. June 2016. Prepared for BRAC Program Management Office West. San Diego, California.

_____. 2016b. Asbestos Reevaluation Investigation Survey Report for the Inland Area, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. June 2016. Prepared for BRAC Program Management Office West. San Diego, California.

TriEco-Tt JV. 2016. Polychlorinated Biphenyls Inventory and Inspection Summary Report, Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California. April 2016. Prepared for BRAC Program Management Office West. San Diego, California.

UNCCC (United Nations Climate Change Conference). 2015. The Paris Agreement, December 12, 2015. Accessed June 30, 2016. http://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf

_____. 2016. Framework Convention on Climate Change: Decision 1/CP.21, Adoption of the Paris Agreement (FCCC/CP/2015/10/Add.1), page 35 (Article 28), January 26, 2016. Retrieved June 6, 2017 from "Information provided in accordance with paragraph 104 of decision 1/CP.21 related to entry into force of the Paris Agreement (Article 21)," at: http://unfccc.int/meetings/paris_nov_2015/session/9057/php/view/reports.php#c.

University of California, Davis. 2001. Overview of California's Drinking Water Source Assessment and Protection (DWSAP) Program. Accessed at: http://groundwater.ucdavis.edu/files/136252.pdf

U.S. Bureau of Economic Analysis. 2017. RIMS II Multipliers (2007/2015), Table 2.5 Total Multipliers for Output, Earnings, Employment, and Value Added by Industry Aggregation, Contra Costa County (Type II).

U.S. Bureau of Labor Statistics. 2016a. "May 2015 National Industry-Specific Occupation Employment and Wage Estimates: NAICS 541000 – Professional, Scientific, and Technical Services." Available at https://www.bls.gov/oes/current/naics3_541000.htm Accessed on March 6, 2017.

_____ 2016b. "May 2015 National Industry-Specific Occupation Employment and Wage Estimates: Sectors 44 and 45 Retail Trade." Available at https://www.bls.gov/oes/current/naics2_44-45.htm Accessed on March 6, 2017.

_____. 2016c. "May 2015 National Industry-Specific Occupation Employment and Wage Estimates: NAICS 721000 Accommodations." Available at https://www.bls.gov/oes/current/naics3_721000.htm Accessed on March 6, 2017.

_____. 2016d. "May 2015 National Industry-Specific Occupation Employment and Wage Estimates: NAICS 611000 – Educational Services (including private, state, and local government schools). Available at https://www.bls.gov/oes/current/naics3_611000.htm Accessed on March 6, 2017.

_____. 2017. U.S. Bureau of Labor Statistics. 2017. Local Area Unemployment Statistics Database, Multi-Screen Data Search. (Choose 06 California then B Metropolitan Areas – MT064186 San Francisco-Oakland-Hayward, CA Metropolitan Statistical Area; F Counties and equivalent – CN060130 Contra Costa County, CA; and G Cities and towns above 25,000 Population. – PA060050 Concord city, CA then 03 unemployment rate and 06 labor force then Not Seasonally Adjusted then retrieve data). Accessed March 17, 2017: http://data.bls.gov/cgi-bin/dsrv?la

U.S. Bureau of Reclamation. 1994. Delta Division Central Valley Project. Accessed at: http://www.usbr.gov/projects/ImageServer?imgName=Doc_1303394251242.pdf

_____. 2006. Draft Finding of No Significant Impact, Inclusion of Bailey Estates to Contra Costa County Water District. FONSI No. 05-99. Draft July 11, 2006.

U.S. Census Bureau. 1990a. 1990 Census of Population, General Population Characteristics for California. Section 1 of 3. Accessed June 28, 2013: http://www.census.gov/prod/cen1990/cp1/cp-1-6-1.pdf

_____. 1990b. 1990 Census of Population, General Population Characteristics for Urbanized Areas. Section 1 of 3. Accessed June 11, 2013: http://www.census.gov/prod/cen1990/cp1/cp-1-1c-1.pdf

_____. 2000. P001 Total Population Universe Total Population. Geography: Geography: Urban Area: San Francisco-Oakland, Contra Costa County, City of Concord, California. Accessed June 28, 2013: http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_00_SF1_P001&prodType=table

_____. 2010. *2010 Census of Population and Housing*. "Total Population for Contra Costa County, the City of Concord, and the San Francisco-Oakland, Fremont MSA." Accessed March 29, 2017. Available at https://factfinder.census.gov/rest/dnldController/deliver?_ts=508863677281

_____. 2013. *2009-201 American Community Survey 5-Year Estimates*. "DP03-Selected Economic Characteristics for San Francisco-Oakland-Hayward MSA, Contra Costa County, and City of Concord." https://factfinder.census.gov/rest/dnldController/deliver?_ts=508849899233

_____. 2015a. *2011-2015 American Community Survey 5-Year Estimates.* "Selected Economic Characteristics: San Francisco-Oakland-Hayward MSA, Contra Costa County, City of Concord, California. Accessed March 29, 2017. https://factfinder.census.gov/rest/dnldController/deliver?_ts=508847506902.pdf.

_____2015b. *2011-2015 American Community Survey 5-Year Estimates.* "DP05-ACS Demographic and Housing Estimates San Francisco-Oakland-Hayward MSA, Contra Costa County, and City of Concord." https://factfinder.census.gov/rest/dnldController/deliver?_ts=508849191025 Accessed March 29, 2017.

_____. 2015c. Selected Housing Characteristics, 2011-2015 American Community Survey 5-Year Estimates. Geography: San Francisco-Oakland-Hayward MSA, Contra Costa County, and City of Concord, California. Accessed March 29, 2017. https://factfinder.census.gov/rest/dnldController/deliver?_ts=508850319267

_____. 2015d. 2011-2015 American Community Survey 5-Year Estimates. "Hispanic or Latino Origin by Race: All Census Block Groups in Contra Costa County. Accessed April 3, 2017. https://factfinder.census.gov/rest/dnldController/deliver?_ts=508856649151.

_____. 2015e. 2011-2015 American Community Survey 5-Year Estimates. "Sex by Age: All Census Block Groups in Contra Costa County. Accessed April 3, 2017. https://factfinder.census.gov/rest/dnldController/deliver?_ts=508857838861.

_____. 2015f. 2011-2015 American Community Survey 5-Year Estimates. "Poverty Status in the Past 12 Months for San Francisco-Oakland-Hayward MSA, Contra Costa County, and City of Concord. Accessed April3, 2017. https://factfinder.census.gov/rest/dnldController/deliver?_ts=508854924200

_____. 2015g. 2011-2015 American Community Survey 5-Year Estimates. "Poverty Status in the Past 12 Months for All Census Tracts in Contra Costa County. Accessed April 3, 2017. https://factfinder.census.gov/rest/dnldController/deliver?_ts=508858742410

_____. n.d (a). 2015 American Community Survey (1-Year Estimates) "Selected Social Characteristics in the United States: Concord City, CA." https://factfinder.census.gov/rest/dnldController/deliver?_ts=506615763039 Accessed March 3, 2017.

_____. n.d (b). 2015 American Community Survey (1-Year Estimates) "Total Population in Occupied Housing Units by Tenure by Units in Structure: Concord City, CA." https://factfinder.census.gov/rest/dnldController/deliver?_ts=506451452617 Accessed March 1, 2017.

_____. n.d (c). 2015 American Community Survey (1-Year Estimates) "Physical Characteristics of Occupied Housing Units: Concord City, CA." https://factfinder.census.gov/rest/dnldController/deliver?_ts=506453137415 Accessed March 1, 2017.

U.S. Department of the Army. 2011. Proposed Plan for Sites 2, 9, and 11, Military Ocean Terminal Concord, Concord, California. San Antonio, Texas. April 2011.

_____. 2013. Draft Environmental Impact Statement for the Modernization and Repair of Piers 2 and 3 at Military Ocean Terminal Concord, CA. Military Surface Deployment and Distribution Command, 834th Transportation Battalion. Concord, California. November 2013.

_____. 2015. Final Environmental Impact Statement for the Modernization and Repair of Piers 2 and 3 at Military Ocean Terminal Concord, CA. February 2015. https://www.sddc.army.mil/res/MOTCOPublicNotices/PD_Final_EIS_MOTCO_Piers_2_and_3__2015-03-04.pdf. Accessed January 17, 2017.

USACE (U.S. Army Corps of Engineers). 2016. San Francisco District - Public Notice Project: Concord Naval Weapon Station Redevelopment. Public Notice Number: 2010-00190S, San Francisco, CA. June 14, 2016.

USDA (U.S. Department of Agriculture). 1977. *Soil Survey of Contra Costa County, California*. Soil Conservation Service in Cooperation with University of California Agricultural Experiment Station.

_____. NRCS (Natural Resources Conservation Service), SSURGO (Soil Survey Geographic Database). 2013. SSURGO Database. Accessed June 27, 2013. K:\National\Soils\SSURGO\Survey_Units_by_State\ca\soil_ca013\spatial\soilmu_a_ca013.shp

_____. Soil Conservation Service. 1989. Hydrology Training Series: Module 106 – Peak Discharge Study Guide. ftp://ftp.wcc.nrcs.usda.gov/wntsc/H&H/training/peak-discharge.pdf

USFWS (U.S. Fish and Wildlife Service). 1998. Recovery Plan for Upland Species of the San Joaquin Valley, California. Region 1, USFWS, Portland, Oregon.

_____. 2002. *Recovery Plan for the California Red-Legged Frog* (*Rana aurora draytonii*). Region 1, USFWS, Portland, Oregon. May 28, 2002.

_____. 2005. Designation of Critical Habitat for the California Tiger Salamander, Proposed Rule. *Federal Register* 70, No. 162. August 23, 2005.

_____. 2006. "Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Red-Legged Frog, and Special Rule Exemption Associated with Final Listing for Existing Routine Ranching Activities." *Federal Register* Vol. 71, No. 71: 19244-19346. April 13, 2006.

_____. 2010a. "California Red-Legged Frog Critical Habitat Subunits CCS-2A and CCS-2B." Map showing critical habitat for species.

_____. 2010b. "California Red-Legged Frog Critical Habitat Unit CCS-1." Map showing critical habitat for species.

_____. 2014a. Species List Generator. Accessed April 30, 2014. http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-overview.htm

_____. 2014b. Critical Habitat Portal. Accessed April 30, 2014. http://crithab.fws.gov/crithab/

_____. 2014c. "Wetlands Near Concord NWS." U.S. Fish and Wildlife Service. National Wetlands Inventory. July 1, 2014.

USGS (U.S. Geological Survey). 1997. *10-Meter Digital Elevation Models*.

_____. 1998. *Summary Distribution of Slides and Earthquakes in the San Francisco Bay Region, California*. Open-File Report 97-745C.

_____. 2005. Mineral Resources On-Line Spatial Data, California Geologic Map Data. Accessed June 27, 2013. http://mrdata.usgs.gov/geology/state/state.php?state=CA

_____. 2005- 2006. Earthquake and Hazards Information, Earthquake Liquefaction Susceptibility. Accessed June 28, 2013. http://gis.abag.ca.gov/website/liquefactionsusceptibility/index.html

_____. 2006. San Francisco Bay Region Geology and Geologic Hazards. Page last modified on August 18, 2006. Accessed July 3, 2013. http://geomaps.wr.usgs.gov/sfgeo/liquefaction/susceptibility.html

_____. 2007. Southern California Earthquake Center, Uniform California Earthquake Rupture Forecast. Accessed July 2, 2013: http://www.scec.org/ucerf2/

_____. 2010. Earthquake. Accessed June 26, 2013. http://earthquake.usgs.gov/hazards/products/conterminous/2008/

_____. 2012a. The Great 1906 San Francisco Earthquake. Accessed April 21, 2014. http://earthquake.usgs.gov/regional/nca/1906/18april/

_____. 2012b. October 17, 1989, Loma Prieta Earthquake. Accessed April 21, 2014. http://earthquake.usgs.gov/regional/nca/1989/

_____. 2013. Accessed July 9, 2013: http://www.usgs.gov/faq/?q=taxonomy/term/9752

Vollmar Natural Lands Consulting. 2008. *2008 Sensitive Botanical Resources Survey Report. Concord Naval Weapons Station, Inland Area*. September 2008.

WesPac Energy-Pittsburg LLC. n.d. "Pittsburg Energy Infrastructure Project." Accessed May 28, 2014. http://www.pittsburgterminalproject.com/projectoverview.htm

The White House. 2017. Statement by President Trump on the Paris Climate Accord. June 1, 2017. Website accessed June 6, 2017 at: https://www.whitehouse.gov/the-press-office/2017/06/01/statement-president-trump-paris-climate-accord.

This page intentionally left blank.

10 Distribution List

The NOA of this FEIS has been distributed to the following government agencies, elected representatives, Native American tribes, and organizations. To protect individual privacy, private individuals are not listed here. Agencies and organizations also receiving a copy of the FEIS in either hard copy or CD format are indicated below with an asterisk.

Congressional Representatives	
Honorable Dianne Feinstein* United States Senate One Post Street Suite 2450 San Francisco, CA 94104	Honorable Kamala Harris* United States Senate 201 I Street Suite 7-600 Sacramento, CA 95814
Honorable Mark DeSaulnier (CA, 11th Dist.)* U.S. House of Representatives 440 Civic Center Plaza 2nd Floor Richmond, CA 94804	Honorable Jeffrey John Dunham (CA, 10th Dist.)* U.S. House of Representatives 4701 Sisk Road Suite 202 Modesto, CA 95356

Federal Agencies	
U.S. Department of Interior	
Mr. David Murillo* Regional Director, Mid-Pacific Region U.S. Department of the Interior, Bureau of Reclamation Federal Office Building 2800 Cottage Way Sacramento, CA 95825-1898	Ms. Alexandra Pitts* Deputy Regional Director, Pacific Southwest Region U.S. Department of the Interior, Fish and Wildlife Service 2800 Cottage Way Room W-2605 Sacramento, CA 95825
Mr. Daniel M. Ashe, Director* U.S. Department of the Interior, Fish and Wildlife Service 1849 C Street, NW Room 3331 Washington, DC 20240-0001	Dr. Willie Taylor, Director* U.S. Department of the Interior Office of Environmental Policy and Compliance Mailstop 2462 1849 C Street, NW Washington, DC 20240
Ms. Stephanie Jentsch* U.S. Department of the Interior, Fish and Wildlife Service Coast Bay/Forest Foothills Division Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, CA 95825	Mr. Ryan Olah, Chief* Coast Bay/Forest Foothills Division U.S. Department of the Interior, Fish and Wildlife Service Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, CA 95825
Ms. Jan C. Knight, Deputy Field Supervisor* Coast Bay/Forest Foothills Division U.S. Department of the Interior, Fish and Wildlife Service Sacramento Fish and Wildlife Office 2800 Cottage Way, Room W-2605 Sacramento, CA 95825	Ms. Anastasia Leigh, Regional Environmental Officer* U.S. Department of the Interior Environmental Compliance Office, MP 150 2800 Cottage Way Sacramento, CA 95825-1898

Federal Agencies	
Ms. Patricia S. Port* Regional Environmental Officer, San Francisco Region U.S. Department of the Interior Office of Environmental Policy and Compliance 333 Bush Street Suite 515 San Francisco, CA 94104	Ms. Laura Joss* Regional Director, Pacific West Region National Park Service 333 Bush Street Suite 500 San Francisco, CA 94104-2828
Ms. BranDee Bruce, Architectural Historian* U.S. Department of the Interior Environmental Compliance Office, MP 150 2800 Cottage Way Sacramento, CA 95825-1898	Ms. Amy Dutschke, Regional Director* Pacific Region U.S. Department of Interior Bureau of Indian Affairs 2800 Cottage Way Sacramento, CA 95825
Mr. Tom Leatherman, Superintendent* Port Chicago Naval Magazine National Memorial National Park Service 440 Civic Center Plaza, Suite 300 Richmand, CA 94894	
U.S. Department of Transportation	
Ms. Carolyn Flowers, Acting Federal Transit Administrator* Federal Transit Administration East Building 1200 New Jersey Avenue, SE Washington, DC 20590	Mr. Vincent Mammano, Division Administrator* U.S. Department of Transportation Federal Highway Administration Sacramento Office 650 Capitol Mall, Suite 4-100 Sacramento, CA 95814
Mr. Glen Martin, Regional Administrator* Federal Aviation Administration Western-Pacific Region 15000 Aviation Blvd, Hawthorne, CA 90261 P.O. Box 92007 Los Angeles, CA 90009	
U.S. Department of Housing and Urban Development	
Mr. Jon Gresley* Regional Administrator, San Francisco Office U.S. Department of Housing and Urban Development One Sansome Street Suite 1200 San Francisco, CA 94104	Ms. Cynthia Abbott* Field Office Director, Sacramento Regional Office U.S. Department of Housing and Urban Development 650 Capitol Mall Room 4200 Sacramento, CA 95814
U.S. Department of Defense	
Mr. Patrick J. O'Brien, Director* U.S. Department of Defense Office of Economic Adjustment 2231 Crystal Drive, Suite 520 Arlington, VA 22202	Mr. Gary Kuwabara, Western Regional Director* U.S. Department of Defense Office Of Economic Adjustment 1325 J Street, Suite 1500 Sacramento, CA 95814

Federal Agencies	
U.S. Department of Homeland Security	
Captain* U.S. Coast Guard U.S. Department of Homeland Security 300 East Main St Suite 800 Norfolk, VA 23510	
U.S. Environmental Protection Agency	
Ms. Alexis Strauss, Acting Regional Administrator* U.S EPA Region 9 75 Hawthorne Street San Francisco, CA 94105	Mr. Jeff Scott, Director* U.S EPA Region 9 Land Division 75 Hawthorne Street San Francisco, CA 94105
Mr. Rob Tomiak, Director* U.S. EPA Office of Federal Activities 1200 Pennsylvania Avenue, N.W. Mail Code: 2251A Washington, DC 20460	Mr. Enrique Mazanilla, Director* U.S. EPA Region 9 Federal Facility Superfund Section 75 Hawthorne Street San Francisco, CA 94105
Ms. Yvonne Fong, Remedial Project Manager* U.S. EPA Region 9 Federal Facility Superfund Section 75 Hawthorne St Mail Code: SFD-8-3 San Francisco, CA 94105	Ms. Karen Vitulano* U.S. EPA Region 9 Environmental Review Office 75 Hawthorne Street Mail Code: ENF-4-2 San Francisco, CA 94105
Mr. Philip Ramsey, Remedial Project Manager* U.S. EPA Region 9 Federal Facility Superfund Section 75 Hawthorne St San Francisco, CA 94105	Mr. Tomas Torres, Director* U.S. EPA Region 9 Water Division 75 Hawthorne Street San Francisco, CA 94105
Director* U.S. EPA Region 9 Office of Environmental Review Mail Code ENF-4-2 75 Hawthorne St San Francisco, CA 94105	Deputy Director* U.S EPA Region 9 Office of Environmental Review 75 Hawthorne St San Francisco, CA 94105
EIS Review Coordinator, Wetlands* U.S. EPA Region 9 75 Hawthorne St San Francisco, CA 94105	
U.S. Department of Commerce	
Mr. Barry Thom* Regional Administrator, West Coast Region U.S. Department of Commerce National Marine Fisheries Service 501 West Ocean Boulevard, Suite 4200 Long Beach, CA 90802	

Federal Agencies	
U.S. Army Corps of Engineers	
Dr. Richard Bottoms, Chief* U.S. Army Corps of Engineers Regulatory Division, 16th Floor 1455 Market Street San Francisco, CA 94103	Ms. Katerina Galacatos, South Branch Chief* U.S. Army Corps of Engineers Regulatory Division 1455 Market Street, Room 1651 San Francisco, CA 94103
Mr. Gregory Brown* U.S. Army Corps of Engineers Regulatory Division, 16th Floor 1455 Market Street San Francisco, CA 94103	

State Elected Representatives	
Honorable Jerry Brown, Governor* State of California Office of the Governor State Capitol, Suite 1173 Sacramento, CA 95814	Honorable Tim Grayson* California State Assembly 14th District 2151 Salvio Street Suite 395 Concord, CA 94520
Honorable Steve Glazer* California State Assembly 7th District State Capitol, Room 4082 Sacramento, CA 95814	

State Agencies	
State of California* State Clearinghouse P.O. Box 3044 Sacramento, CA 95814-3044	Mr. Mark L. Weaver, Deputy District Director* Right of Way CalTrans District 4 111 Grand Avenue Oakland, CA 94612
Ms. Jodie Traversaro* Regional Administrator, Coastal Region California Emergency Management Agency 1340 Treat Boulevard, Suite 270 Walnut Creek, CA 94597	Mr. Jim Pinasco* California Department of Toxic Substances Control Sacramento Regional Office Office of Military Facilities 8800 Cal Center Drive Sacramento, CA 95826
Mr. John Hiber, Chief Deputy Director* California Department of Housing & Community Development 2020 West El Camino Avenue Sacramento, CA 95833	Director* California Department of Parks & Recreation Natural Resources Division P.O. Box 942896 Sacramento, CA 94296-0001
Mr. William Croyle, Acting Director* California Department of Water Resources P. O. Box 942836 Room 1115-1 Sacramento, CA 94236-0001	Director* Department of Conservation California Geological Survey 801 K Street, MS 12-30 Sacramento, CA 95814

State Agencies	
Mr. Charlton Bonham, Director* California Department of Fish and Wildlife 1416 9th Street 12th Floor Sacramento, CA 95814	Chief Ken Pimlott, Director* California Department of Forestry & Fire Protection 1416 9th Street P.O. Box 944246 Sacramento, CA 94244-2460
Ms. Diane Riddle, Program Manager* State Water Resources Control Board Division of Water Rights 1001 I Street P. O. Box 100 Sacramento, CA 95814	Lt. Julie Page* Environmental Review--Special Projects California Highway Patrol 2555 1st Avenue Sacramento, CA 95818
California Native American Heritage Commission* 1550 Harbor Boulevard Suite 100 West Sacramento, CA 95691	Ms. Julianne Polanco* State Historic Preservation Officer California State Office of Historic Preservation 1725 23rd Street Suite 100 Sacramento, CA 95816
Mr. Joseph McDole, State Historian* California State Office of Historic Preservation 1725 23rd Street Suite 100 Sacramento, CA 95816	State of California Drinking Water Program* 1616 Capitol Avenue P.O. Box 997377, MS 7400 Sacramento, CA 95899-7377
Mr. Yen (Ken) Chiang, P.E., Utilities Engineer* State of California Public Utilities Commission Rail Crossings Engineering Section, Safety and Enforcement Division 320 West 14th St Suite 500 Los Angeles, CA 90013-1105	Mr. Cy Oggins, Division Chief* Environmental Planning and Management State Lands Commission Sacramento Office 100 Howe Avenue Suite 100 South Sacramento, CA 95825-8202
Mr. Erik Alm, AICP, Senior Transportation Planner* Office of Multimodal System Planning, Division of Transportation Planning, MS #32 California Department of Transportation P.O. Box 942874 Sacramento, CA 94274	Mr. Thomas Cullen, Administrator* Office of Spill Prevention and Response California Department of Fish and Wildlife 1700 K Street Suite 250 Sacramento, CA 95811

County/Local Agencies	
Association of Bay Area Governments Attn: Planning/Development Review 101 8th Street Oakland, CA 94607	Mr. Dennis Baker Bay Area Air Quality Management District 375 Beale Street Suite 600 San Francisco, CA 94105
Mr. Jack Broadbent, Executive Officer Bay Area Air Quality Management District 375 Beale Street Suite 600 San Francisco, CA 94105	Ms. Grace Crunican, General Manager San Francisco Bay Area Rapid Transit District P.O. Box 12688 Oakland, CA 94604-2688

County/Local Agencies	
Ms. Trina Hudson Baypoint MAC 3105 Willow Pass Road Bay Point, CA 94565	Ms. Sue O'Leary Supervisor, Environmental Section CA Integrated Waste Management Board 1001 I Street P. O. Box 4025 MS-15 Sacramento, CA 95812-4025
Mr. Russ Leavitt Central Contra Costa Sanitary District 5019 Imhoff Place Martinez, CA 94553	City of Clayton* 6000 Heritage Trail P.O. Box 280 Clayton, CA 94517
City of Martinez* Deputy Director of Commerce and Economic Development 525 Henrietta Street Martinez, CA 94553	Mr. Mark Seedall, Principal Planner Contra Costa Water District 1331 Concord Avenue Concord, CA 94520
City of Richmond Planning Division 450 Civic Center Plaza Richmond, CA 94804	City of San Ramon Planning Services Division 2401 Crow Canyon Road San Ramon, CA 94583
City of San Pablo Planning Services 13831 San Pablo Avenue Building #3 San Pablo, CA 94806	City of Pinole Planning Division 2131 Pear Street Pinole, CA 94564
Mr. Nick Adler Concord Disposal Service 4080 Mallard Drive Concord, CA 94520	Ms. Karen Sakata, Superintendent Contra Costa County School District 77 Santa Barbara Road Pleasant Hill, CA 94523
Mr. David Twa Contra Costa County Administration 651 Pine Street 10th Floor Martinez, CA 94553	Contra Costa County Airport Land Use Commission c/o Community Development Department County Admininstration Building 30 Muir Road Martinez, CA 94553
Ms. Beth Lee, Assistant Director Contra Costa County Airports 550 Sally Ride Drive Concord, CA 94520-5550	Contra Costa County Clerk* P.O. Box 350 Martinez, CA 94553
Contra Costa County Department of Environmental Health 2120 Diamond Boulevard Suite 200 Concord, CA 94520	Mr. Lon Goetsch, Chief Contra Costa County Fire District 2010 Geary Road Pleasant Hill, CA 94523
Ms. Lara DeLaney, Senior Deputy County Administrator 651 Pine Street 10th Floor Martinez, Ca 94553	Melinda Cervantes, County Librarian Contra Costa County Library District 777 Arnold Drive Suite 210 Martinez, CA 94553

County/Local Agencies	
Mr. Craig Downs, General Manager Contra Costa County Mosquito & Vector Control District 155 Mason Circle Concord, CA 94520	Contra Costa County Public Health Services Attn: Public Health Administration 597 Center Avenue Suite 200 Martinez, CA 94553
Contra Costa County Public Works Department* 255 Glacier Drive Martinez, CA 94553	Mr. Ben Wallace, Executive Director Contra Costa County Resource Conservation District 5552 Clayton Road Concord, CA 94521
Mr. Ryan Hernandez Contra Costa County Water Agency 30 Muir Road Martinez, CA 94553	Contra Costa Flood Control/Z-3B 255 Glacier Drive Martinez, CA 94533-4711
Contra Costa LAFCO Attn: Planning/Development Review 651 Pine Street 6th Floor Martinez, CA 94553	Contra Costa Transit Authority 2999 Oak Road Suite 100 Walnut Creek, CA 94957
Mr. Brad Beck, Senior Transportation Planner Contra Costa Transportation Authority 2999 Oak Road Suite 100 Walnut Creek, CA 94597	Seismic Safety Commission 1755 Creekside Oaks Drive Suite 100 Sacramento, CA 95833
Mr. Albert Lopez, Planning Director* Alameda County Planning Commission 224 West Winton Avenue Room 111 Hayward, CA 94544	Mr. Mike Yankovich, Planning Manager* Solano County Planning Department 675 Texas Street Suite 5500 Fairfield, CA 94533-6341
Solano County Division of Public Works* 675 Texas Street Suite 5500 Fairfield, CA 94533-6341	Mr. Daniel Woldesenbet, Ph.D., P.E., Director and County Engineer* Alameda Coutny Public Works Department 399 Elmhurst Street Hayward, CA 94544
Ms. Brenda Kain Concord/Pleasant Hill Health Care District 1950 Parkside Drive Concord, CA 94519	Contra Costa Health Services 50 Douglas Drive Martinez, CA 94553
Los Medanos Hospital District P.O. Box 8698 Pittsburg, CA 94565-8698	Mr. Jeffrey L. Spencer, Executive Director Sacramento Transportation Authority 431 I Street Suite 106 Sacramento, CA 95814
TRANSPAC Attn: Transpac Manager/Chair 296 Jayne Avenue Oakland, CA 94610	Metro Transportation Commission 101 8th Street Oakland, CA 94607

County/Local Agencies	
San Francisco Bay Conservation & Development Commission 455 Golden Gate Avenue Suite 10600 San Francisco, CA 94102-7019	Mr. Daniel O'Brien Department of General Services Real Estate Services Division Environmental Services Section 707 3rd Street 4th Floor Sacramento, CA 95605
Ms. Deirdre Heitman San Francisco Bay Area Rapid Transit District P.O. Box 12688 Oakland, CA 94604-2688	Mr. Dan W. Bailey, Chief Administrative Officer Sacramento Regional Transit District P.O. Box 2110 Sacramento, CA 95812-2110
Mr. Robert E. Doyle, General Manager East Bay Regional Park District 2950 Peralta Oaks Court P.O. Box 5381 Oakland, CA 94605-0381	Mr. Brian Holt, Acting Chief of Planning/GIS* East Bay Regional Park District 2950 Peralta Oaks Court Oakland, CA 94605
Ms. Julie Bondurant, Principal Planner* East Bay Regional Park District 2950 Peralta Oaks Court P.O. Box 5381 Oakland, CA 94605	Undersheriff Michael Casten Contra Costa County Sheriff's Department 651 Pine Street 7th Floor Martinez, CA 94553
Mr. Richard Sinkhoff, Division Director Port of Oakland Environmental Division 530 Water Street Oakland, CA 94607	Bob McEwan Executive Director Contra Costa Housing Authority 3133 Estudillo Street P.O. Box 2759 Martinez, CA 94553
Mr. Martin Engelmann, P.E. Deputy Executive Director of Planning Central Contra Costa Transit Authority 2999 Oak Road Suite 100 Walnut Creek, CA 94597	Attn: Environmental Division Port of Stockton 2201 W. Washington Street P.O. Box 2089 Stockton, CA 95203/95201
Mr. John Kopchik, Director Contra Costa County Department of Conservation and Development Community Development Division 30 Muir Road Martinez, CA 94553	Ms. Linda M. Emadzadeh, Sr. ROW Agent CalTrans District 4 111 Grand Avenue Oakland, CA 94612
Mr. Lewis Broschard, Deputy Fire Chief* Contra Costa County Fire Protection District 2010 Geary Road Pleasant Hill, CA 94523-4619	Sheriff David Livingston Contra Costa County Sheriff's Department 651 Pine Street 7th Floor Martinez, CA 94553
Mr. Guy Bjerke, Director* Community Reuse Planning City of Concord 1950 Parkside Drive, MS/56 Concord, CA 94519	City of Walnut Creek Public Works Department* 1666 North Main Street 2nd Floor Walnut Creek, CA 94596

County/Local Agencies	
City of Benicia Public Works Department* 250 East L Street Benecia, CA 94510	City of Alameda Public Works Department* 2263 Santa Clara Avenue Alameda, CA 94501
Mr. Rick Angrisani* City of Clayton Public Works Department 6000 Heritage Trail Clayton, CA 94517	Mr. Mike Moran, Public Works Director* Public Works Department, City of Lafayette 3001 Camino Diablo Lafayette, CA 94549
Mr. Ron Bernal, Public Works Director* City of Antioch Public Works Department 1201 West 4th Street Antioch, CA 94509	Mr. Mario Moreno, City Engineer* City of Pleasant Hill Public Works Department 100 Gregory Lane Pleasant Hill, CA 94523
Director* City of Martinez Public Works Department 525 Henrietta Street Martinez, CA 94553	Mr. Steven Jones, Senior Civil Engineer* Town of Danville Development Services Department 510 La Gonda Way Danville, CA 94526
Mr. Kevin Rohani, P.E., City Engineer* City of Oakley Public Works Department 3231 Main Street Oakley, CA 94561	Mr. Charles Swanson, Director of Public Works and Engineering Services* City of Orinda Public Works Department 22 Orinda Way Orinda, CA 94563
Mr. Miki Tsubota, Director of Public Works* City of Brentwood Public Works Department 2201 Elkins Way Brentwood, CA 94513	Mr. Don Buchanan, Director Recreation and Maintenance Services, Environmental Center* City of Pittsburg Public Works Department 2581 Harbor Street Pittsburg, CA 94565
Mr. Milan Sikela, Assistant Planner* City of Clayton Planning Department 6000 Heritage Trail PO Box 280 Clayton, CA 94517	Ms. Dalia Zuniga* City of Concord Planning and Development Department 1950 Parkside Dr. MS/56 Concord, CA 94519
Mr. Greg Fuz, City Planner* City of Pleasant Hill Planning Department 100 Gregory Lane Pleasant Hill, CA 94523	Mr. Kevin Gailey, Chief of Planning* Town of Danville Planning Department 510 La Gonda Way Danville, CA 94526
Mr. Forrest Ebbs, Director* City of Antioch Community Development Department 200 H St PO Box 5007 Antioch, CA 94531	Mr. Biran Krcelic, Chair* City of Walnut Creek Planning Commission 1666 North Main Street Walnut Creek, CA 94596
Mr. Joe McGrath, Chair* City of Orinda Planning Commission 22 Orinda Way Orinda, CA 94563	Mr. Ken Strelo, Senior Planner* City of Oakley Planning Department 3231 Main Street Oakley, CA 94561

County/Local Agencies	
Mr. George Oakes, Sr., Commissioner* City of Benecia Planning Commission 250 East L Street Benecia, CA 94510	Ms. Kristin Pollot, Planning Manager* City of Pittsburg Planning Department 65 Civic Avenue Pittsburg, CA 94565
City of Antioch Planning Department* PO Box 5007 Antioch, CA 94531	City of Brentwood Planning Commission * 150 City Park Way Brentwood, CA 94513
City of Martinez Planning Department* 525 Henrietta Street Martinez, CA 94553	Mr. Niroop K. Srivatsa, Planning and Building* Director City of Lafayette Planning Commission 3675 Mount Diablo Boulevard Suite 210 Lafayette, CA 94549

City and County Elected Officials	
Ms. Laura M. Hoffmeister, Mayor Concord City Council 1950 Parkside Drive, MS/01 Concord CA 94519	Mr. Edi E. Birsan, Vice Mayor Concord City Council 1950 Parkside Drive, MS/01 Concord CA 94519
Mr. Ron Leone, Councilmember Concord City Council 1950 Parkside Drive, MS/01 Concord CA 94519	Ms. Carlyn Obringer, Councilmember Concord City Council 1950 Parkside Drive, MS/01 Concord CA 94519
Mr. Tim McGallian, City Treasurer Concord City Council 1950 Parkside Drive, MS/01 Concord CA 94519	Mr. Dan Kalb, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612
Mr. Abel Guillén, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 9461	Ms. Lynette Gibson McElhaney, Council President Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612
Ms. Annie Campbell Washington, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612	Mr. Noel Gallo, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612
Ms. Desley Brooks, Councilmember Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612	Mr. Larry Reid, Councilmember (President Pro Tem) Oakland City Council 1 Frank Ogawa Plaza, 2/F Oakland CA 94612
Ms. Rebecca Kaplan Councilmember At-Large Oakland City Council 1 Frank H. Ogawa Plaza Suite 244 Oakland CA 94612	Mr. Jim Diaz, Mayor Clayton City Council City Hall 6000 Heritage Trail Clayton CA 94517

City and County Elected Officials	
Mr. Keith Haydon, Vice Mayor Clayton City Council City Hall 6000 Heritage Trail Clayton CA 94517	Mr. Tuija Catalano, Councilmember Clayton City Council City Hall 6000 Heritage Trail Clayton CA 94517
Mr. David T. Shuey, Councilmember Clayton City Council City Hall 6000 Heritage Trail Clayton CA 94517	Ms. Julie K. Pearce, Councilmember Clayton City Council City Hall 6000 Heritage Trail Clayton CA 94517
Mr. Rob Schroder, Mayor Martinez City Council 525 Henrietta Street Martinez CA 94553	Ms. Debbie McKillop, Councilmember Martinez City Council 525 Henrietta Street Martinez CA 94553
Mr. Mark Ross, Councilmember Martinez City Council 525 Henrietta Street Martinez CA 94553	Ms. Noralea Gipner, Councilmember Martinez City Council 525 Henrietta Street Martinez CA 94553
Ms. Lara DeLaney, Councilmember Martinez City Council 525 Henrietta Street Martinez CA 94553	Mr. Tom Butt, Mayor Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond CA 94804
Mr. Nathaniel Bates, Councilmember Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804	Ms. Jovanka Beckles, Councilmember Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804
Mr. Eduardo Martinez, Vice Mayor Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804	Ms. Gayle McLaughlin, Councilmember Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804
Mr. Jael Myrick, Councilmember Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804	Mr. Vinay Pimplé, Councilmember Richmond City Council City Council Chambers 440 Civic Center Plaza Richmond, CA 94804
Ms. Genoveva Garcia Calloway, Vice Mayor San Pablo City Council City Hall/Council Chambers 13831 San Pablo Avenue San Pablo, CA 94806	Mr. Paul V. Morris, Councilmember San Pablo City Council City Hall/Council Chambers 13831 San Pablo Avenue San Pablo, CA 94806
Ms. Cecilia Valdez, Mayor San Pablo City Council City Hall/Council Chambers 13831 San Pablo Avenue San Pablo, CA 94806	Mr. Arturo Cruz, Councilmember San Pablo City Council City Hall/Council Chambers 13831 San Pablo Avenue San Pablo, CA 94806

City and County Elected Officials	
Mr. Rich Kinney, Councilmember San Pablo City Council City Hall/Council Chambers 13831 San Pablo Avenue San Pablo, CA 94806	Ms. Merl Craft, Mayor Pittsburg City Council 65 Civic Avenue Pittsburg, CA 94565
Mr. Sal Evola, Councilmember Pittsburg City Council 65 Civic Avenue Pittsburg, CA 94565	Mr. Jelani Killings, Councilmember Pittsburg City Council 65 Civic Avenue Pittsburg, CA 94565
Mr. Juan Antonio Banales, Councilmember Pittsburg City Council 65 Civic Avenue Pittsburg, CA 94565	Mr. Bill Clarkson, Mayor San Ramon City Council 2966 Ascot Drive San Ramon, CA 94583
Mr. Pete Longmire, Vice Mayor Pittsburg City Council 65 Civic Avenue Pittsburg, CA 94565	Mr. Harry Sachs, Councilmember San Ramon City Council 21 Tareyton Court San Ramon, CA 94583
Mr. David E. Hudson, Councilmember San Ramon City Council 162 Pebble Place San Ramon, CA 94583	Mr. Scott Perkins, Vice Mayor San Ramon City Council 2764 Ellingson Way San Ramon, CA 94583
Mr. Philip G. O'Leane, Councilmember San Ramon City Council 7000 Bollinger Canyon Road San Ramon, CA 94583	Ms. Debbie Long, Mayor Pinole City Council 2131 Pear Street Pinole, CA 94564
Mr. Timothy Banuelos, Mayor Pro Tem Pinole City Council 2131 Pear Street Pinole, CA 94564	Mr. Roy Swearingen, Councilmember Pinole City Council 2131 Pear Street Pinole, CA 94564
Mr. Peter J. Murray, Councilmember Pinole City Council 2131 Pear Street Pinole, CA 94564	Ms. Sue Noack, Councilmember Pleasant Hill City Council 100 Gregory Lane Pleasant Hill, CA 94523
Ms. Maureen Toms, Councilmember Pinole City Council 2131 Pear Street Pinole, CA 94564	Mr. Matthew Rinn, Councilmember Pleasant Hill City Council 100 Gregory Lane Pleasant Hill, CA 94523
Mr. Michael G. Harris, Mayor Pleasant Hill City Council 100 Gregory Lane Pleasant Hill, CA 94523	Ms. Cindy Silva, Councilmember Walnut Creek City Council 1666 North Main Street Walnut Creek, CA 94596
Mr. Ken Carlson, Councilmember Pleasant Hill City Council 100 Gregory Lane Pleasant Hil,l CA 94523	Mr. Kevin Wilk, Councilmember Walnut Creek City Council 1666 North Main Street Walnut Creek, CA 94596
Mr. Timothy M. Flaherty, Vice Mayor Pleasant Hill City Council 100 Gregory Lane Pleasant Hill, CA 94523	Mr. Justin Wedel, Mayor Pro Tem Walnut Creek City Council 1666 North Main Street Walnut Creek, CA 94596

City and County Elected Officials	
Mr. Rich Carlston, Mayor Walnut Creek City Council 1666 North Main Street Walnut Creek, CA 94596	Ms. Candace Anderson, Supervisor, District II Contra Costa County Board of Supervisors 651 Pine Street, Room 106 Martinez, CA 94553
Ms. Loella Haskew, Councilmember Walnut Creek City Council 1666 North Main Street Walnut Creek, CA 94596	Ms. Karen Mitchoff, Supervisor, District IV Contra Costa County Board of Supervisors 651 Pine Street, Room 106 Martinez, CA 94553
Mr. John M. Gioia, Supervisor, District I Contra Costa County Board of Supervisors 651 Pine Street, Room 106 Martinez, CA 94553	Mr. Keith Carson, President, District 5 Alameda County Board of Supervisors 1221 Oak Street, #536 Oakland, CA 94612
Ms. Diane Burgis, Supervisor, District III Contra Costa County Board of Supervisors 651 Pine Street, Room 106 Martinez, CA 94553	Mr. Richard Valle, Supervisor, District 2 Alameda County Board of Supervisors 1221 Oak Street, #536 Oakland, CA 94612
Mr. Federal D. Glover, Supervisor, District V Contra Costa County Board of Supervisors 651 Pine Street, Room 106 Martinez, CA 94553	Mr. Nate Miley, Supervisor, District 4 Alameda County Board of Supervisors 1221 Oak Street, #536 Oakland, CA 94612
Mr. Scott Haggerty, President, District 1 Alameda County Board of Supervisors 1221 Oak Street, #536 Oakland, CA 94612	Ms. Wilma Chan, Vice President, District 3 Alameda County Board of Supervisors 1221 Oak Street, #536 Oakland, CA 94612
Ms. Libby Schaaf, Mayor City of Oakland 1 Frank H. Ogawa Plaza 3rd Floor Oakland, CA 94612	Mr. Sean Wright, Mayor Antioch City Council P.O. Box 5007 Antioch, CA 94531
Mr. Lamar Thorpe, Mayor Pro Tem Antioch City Council P.O. Box 5007 Antioch, CA 94531-5007	Ms. Lori Ogorchock, Councilmember Antioch City Council P.O. Box 5007 Antioch, CA 94531
Mr. Tony G. Tiscareno, Councilmember Antioch City Council P.O. Box 5007 Antioch, CA 94531	Ms. Monica E. Wilson, Councilmember Antioch City Council P.O. Box 5007 Antioch, CA 94531

Educational Institutions	
California State East Bay, Concord Campus Attn: Coordinator Of Admin. Services 4700 Ygnacio Valley Road Concord, CA 94521	Dr. Nellie Meyer, Superintendent Mount Diablo Unified School District 1936 Carlotta Drive Concord, CA 94519
Ms. Shannon Ortland, Manager Assessment, Research and Evaluation Department Mt. Diablo Unified School District 1936 Carlotta Drive Concord, CA 94519	Sonoma State University Anthropological Studies Center 1801 E. Cotati Avenue Rohnert Park, CA 94928
Dr. Leroy M. Morishita, President California State University, East Bay 25800 Carlos Bee Boulevard Hayward, CA 94542-3001	Mr. Ray Pyle Contra Costa County Community College 500 Court Street Martinez, CA 94553
Contra Costa Community College Dist. Community College ERAF 500 Court Street Martinez, CA 94553	

Libraries	
Concord Library* 2900 Salvio Street Concord, CA 94519	Pittsburg Library* 80 Power Avenue Pittsburg, CA 94565
Pleasant Hill Library* 1750 Oak Park Boulevard Pleasant Hill, CA 94523	

Utilities/Public Services	
Astound Broadband 215 Mason Circle Concord, CA 94520	Mr. Phillip Arndt Comcast 2500 Bates Avenue Suite A Concord, CA 94520
East Bay Municipal Utility District 375 11th Street Oakland, CA 94607	PG&E Attn: Planning/Development Review 1030 Detroit Avenue Concord, CA 94518-2487
Regional Water Quality Control Board San Francisco Bay Region Attn: Environmental Document Coordinator 1515 Clay Street Suite 1400 Oakland, CA 94612	

Local Organizations	
Ms. Corinne Dutra-Roberts, Program Manager Contra Costa Commute Alternative Network P.O. Box 23675 Pleasant Hill, CA 94523	Ms. Kate Meis, Executive Director Local Government Commission 980 9th Street Suite 1700 Sacramento, CA 95814-2736
Mr. Doug Long Ambrose Recreation and Park District 3105 Willow Pass Road Bay Point, CA 94565	The County Connection Central 2477 Arnold Industrial Way Concord, CA 94520
TRANSPLAN Community Development Dept. 30 Muir Road Martinez, CA 94553	Mr. Samuel P. Tepperman-Gelfant Public Advocates 131 Steuart St. #300 San Francisco, CA 94105-1241
Ms. Barbara Leitner, President California Native Plant Society East Bay Chapter P.O. Box 5597, Elmwood Station Berkeley, CA 94705	Ms. Gloria Bruce, Executive Director East Bay Housing Organizations 538 9th Street, #200 Oakland, CA 94807
Contra Costa Economic Partnership 500 Ygnacio Valley Road Suite 470 Walnut Creek, CA 94596	Mr. Ted Clement, Executive Director Save Mount Diablo 1901 Olympic Boulevard Suite 320 Walnut Creek, CA 94596
Reverend Diana McDaniel* Friends of Port Chicago P.O. Box 546 San Leandro, CA 94577	Mr. Joel Devalcourt Greenbelt Alliance 1601 North Main Street, #105 Walnut Creek, CA 94596
Mr. Jimm Edgar Mt. Diablo Audobon Society P.O. Box 53 Walnut Creek, CA 94596	Mr. Seth Adams* Save Mount Diablo 1901 Olympic Boulevard, #230 Walnut Creek, CA 94596
Mr. Aaron Isherwood Sierra Club Environmental Law Program 2101 Webster Street Suite 1300 Oakland, CA 94612	Ms. Celia Harris Human Impact Partners 304 12th Street Suite 2B Oakland, CA 94607
Ms. Andrea Foti Monument Community Partnership 1760 Clayton Road Concord, CA 94520	Pastor Donnell Jones, Interim Executive Director Contra Costa Interfaith Supporting Community Organization 1000-B Macdonald Avenue Richmond, CA 94801
Mr. John Keibel* Concord Historical Society P.O. Box 404 Concord, CA 94522	Bike East Bay P.O. Box 1736 Oakland, CA 94604

Local Organizations	
Mr. Rick Aldridge, President Carpenters Local 152 P.O. Box 4040 Martinez, CA 94553	Mr. Scott Saftler, President Contra Costa County Historical Society 724 Escobar Street Martinez, CA 94553

Neighborhood Alliances	
Mr. Bill Miller Meadow Homes Neighborhood Alliance 1380 Traynor Road Concord, CA 94520	Ms. Jeannette Green Holbrook Neighborhood Alliance 3306 Woodhaven Lane Concord, CA 94519
Ms. Donna Oliver Meadow Homes Neighborhood Alliance 2380 Sunshine Drive Concord, CA 94520	Ms. Grace Cooke Hillcrest Neighborhood Alliance 2911 Knoll Drive Concord, CA 94520
Ms. Kathy Gleason Concord Naval Weapons Station Neighborhood Alliance 4459 Crestwood Circle Concord, CA 94521	Mr. Paul Poston Sun Terrace Neighborhood Alliance 3732 Salsbury Lane Concord, CA 94520
Ms. Colleen Geraghty Dana Estates Neighborhood Alliance 3957 Beechwood Drive Concord, CA 94519	Ms. Susan Metzger Sun Terrace Neighborhood Alliance 2231 Brunswick Concord, CA 94520
Ms. Sandy Bair 2779 Arygll Ave Concord, CA 94519	Mr. Philip Schafer Dana Estates Neighborhood Alliance 3957 Beechwood Dr Concord, CA 94519

Tribal Entities	
Ms. Silvia Burley, Chairperson* California Valley Miwok Tribe 4620 Shippee Lane Stockton, CA 95212	Ms. Crystal Martinez, Chairperson* Ione Band of Miwok Indians 9252 Bush Street, Suite 3 Plymouth, CA 95669
Mr. Nicholas H. Fonseca, Chairman* Shingle Springs Band of Miwok Indians PO Box 1340 Shingle Springs, CA 95682	Mr. Raymond Hitchcock, Chairman* Wilton Rancheria 9728 Kent Street Elk Grove, CA 95624
Andrew Galvan, President, Board of Directors The Ohlone Indian Tribe, Inc. P.O. Box 3152 Fremont, CA 94539	Ms. Ramona Garibay, Representative Trina Marine Ruano Family 30940 Watkins Street Union City, CA 94587
Mr. Valentin Lopez, Chairman Amah/Mutsun Tribal Band P.O. Box 5272 Galt, CA 95632	Ms. Ann Marie Sayers, Chairperson Indian Canyon Mutsun Band of Costanoan P.O. Box 28 Hollister, CA 95024-0028

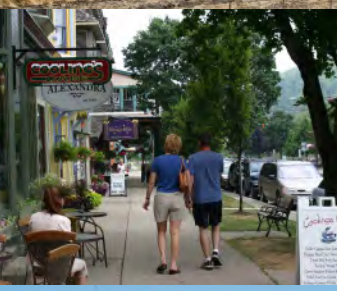
Tribal Entities	
Ms. Rosemary Cambra, Chairperson Muwekma Ohlone Indian Tribe of the SF Bay Area P.O. Box 360791 Milpitas, CA 95036	Ms. Katherine Erolinda Perez P.O. Box 717 Linden, CA 95236

This page intentionally left blank.













Final Environmental Impact Statement (EIS) for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord Concord, California

August 2017 • Volume 2 of 2: Appendices



NAVFAC
Naval Facilities Engineering Command

Prepared by:
Department of the Navy
Naval Facilities Engineering Command Headquarters,
Base Realignment and Closure
Program Management Office West
33000 Nixie Way
Building 50
San Diego, CA 92147

Cooperating Agency:
U.S. Army Corps of Engineers

Appendix A Agency Correspondence

This page intentionally left blank.

Consultation and Coordination with the U.S. Fish and Wildlife Service and National Marine Fisheries Service

This page intentionally left blank.

USFWS and NMFS Consultation and Coordination Index

USFWS

Cay C. Goude, Assistant Field Supervisor, Endangered Species Program. May 18, 2007. To Michael W. Wright, Concord Naval Weapons Station Reuse Project, Concord, CA.

Ric Notini, Project Manager. August 28, 2007. To: Chris Nagano. Sheila Larson, Marcia Grefsrud, and Janice Gan.

John Hill, Base Closure Manager. October 15, 2007. To: Cay C. Goude, Assistant Field Supervisor, USFWS.

John Hill, Base Closure Manager. August 6. 2008. To: Ms. Cay C. Goude, Assistant Field Supervisor, USFWS, Sacramento, CA.

Cay C. Goude, Assistant Field Supervisor, Endangered Species Program. August 28, 2008. To: John Hill, BRAC Program Management Office, San Diego, CA.

John Hill, Base Closure Manager. October 9, 2008. To: Cay C. Goude, Assistant Field Supervisor, USFWS, Sacramento, CA.

Cay C. Goude, Assistant Field Supervisor, Endangered Species Program. October 31, 2008. To: John Hill BRAC Program Management Office, San Diego, CA.

John Hill, Base Closure Manager. December 23, 2008. To: Cay C. Goude, Assistant Field Supervisor, USFWS, Sacramento, CA.

Cay C. Goude, Assistant Field Supervisor, Endangered Species Program. December 26, 2008. To: John Hill, BRAC Program Management Office.

John Hill, Base Closure Manager. January 14, 2009. To: Ms. Cay c. Goude, Assistant Field Supervisor, USFWS, Sacramento, CA

John Hill, Base Closure Manager. January 29, 2009. To: Ms. Cay C. Goude, Assistant Field Supervisor, USFWS, Sacramento, CA.

John Hill, Base Closure Manager. October 19, 2009. To Cay C. Goude, Assistant Field Supervisor, USFWS, Sacramento, CA.

John Hill, Base Closure Manager. March 10, 2010. To: Mr. Chris Nagano, USFWS, Sacramento, CA.

Cay C. Goude, Assistant Field Supervisor, Endangered Species Program. March 18, 2010. To: Mr. John Hill, BRAC Program Management Office, San Diego, CA.

Ms. Jane Hicks, Chief, Regulatory Division, USACE. June 12, 2013. To: Mr. Ryan Olah, USFWS, Endangered Species Division.

Kimberly Ostrowski, Director, BRAC Program Management Office. June 21, 2013. To: Mr. Dan Cordova, USFWS, Sacramento, CA.

Alan K. Lee, Base Closure Manager, BRAC Program Management Office. October 2, 2013. To: Mr. Dan Cordova, USFWS, Sacramento, CA.

Timothy S. Grayson, Mayor, Concord, CA. May 29, 2014. To: Senator Dianne Feinstein, Senator Barbara Boxer, and Congressman George Miller.

Eric Tattersall, Deputy Assistant Field Supervisor, USFWS. December 18, 2014. To: Ms. Jane Hicks, Chief, Regulatory Division, USACE, and Alan Lee, Base Closure Manager, San Diego, CA.

Jan Knight, Deputy Field Supervisor, USFWS. December 4, 2015. To: Ms. Jane Hicks, Chief, Regulatory Division, USACE, and Alan Lee, Base Closure Manager, San Diego, CA.

Jan Knight, Deputy Field Supervisor, USFWS. December 11, 2015. To: Ms. Jane Hicks, Chief, Regulatory Division, USACE.

Kimberly Ostrowski, Director, BRAC Program Management Office. September 7, 2016. To: Ms. Jan Knight, Deputy Field Supervisor, USFWS.

Robert Doyle, General Manager, East Bay Regional Parks District. September 22, 2016. To: The Honorable Sally Jewell, Secretary, U.S. Department of the Interior.

Paul Souza, Regional Director USFWS. October 14, 2016. To: R. Doyle, East Bay Regional Parks District

NMFS

Jane Hicks, Chief, Regulatory Division. June 12, 2013. To: Rodney McInnis, National Marine Fisheries Service.

Gary Stern, National Marine Fisheries Service. January 21, 2014. To: Ian Liffman, Regulatory Division, USACE.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
1-1-07-TA109

May 18, 2007

OPTIONAL FORM 99 (7-90)
FAX TRANSMITTAL # of pages ▸ 4

To MICHAEL WRIGHT	From CHRIS NADEAU
Dept./Agency	Phone #
Fax HARD COPY FOLLOWS	Fax VIA USMAIL

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

Mr. Michael W. Wright
Concord Naval Weapons Station Reuse Project
City of Concord
1950 Parkside Drive MS/56
Concord, California 94519-2578

Subject: Concord Community Reuse Project at the Concord Naval Weapons Station in the City of Concord, Contra Costa County, California

Dear Mr. Wright:

This letter is in response to the proposed Concord Community Reuse Project at the Concord Naval Weapons Station in the City of Concord, Contra Costa County, California. Our comments and recommendations are based on the *Concord Community Reuse Project Environmental Checklist/Initial Study* (Initial Study) that was issued by the City of Concord on May 11, 2007 and was received by the U.S. Fish and Wildlife Service (Service) on May 14, 2007; and other information available to us. This letter is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*)(Act), and the Service's Mitigation Policy of 1956.

It is our understanding that the proposed project is the creation of a plan that will guide the reuse of the approximately 5,028-ace site that is known as the "Inland Area" of the Concord Naval Weapons Station. All of the initial planning will be at the concept level and anticipates refinements once the property is conveyed from U.S. Navy ownership to the City of Concord. The Service concurs with the determination in the Initial Study that the proposed project may have a significant effect on the environment and an environmental impact report is required.

The Service is concerned about the potential adverse effects of the proposed project on a number of listed species. The listed species include, but are not limited to, the threatened California red-legged frog (*Rana aurora draytonii*), threatened California tiger salamander (*Ambystoma californiense*), threatened vernal pool fairy shrimp (*Branchinecta lynchi*), endangered San Joaquin kit fox (*Vulpes macrotis mutica*), endangered longhorn fairy shrimp (*Branchinecta*

8 species

TAKE PRIDE IN AMERICA

longiantenna), endangered Conservancy fairy shrimp (*Branchinecta conservatio*), endangered least Bell's vireo (*Vireo bellii pusillus*), and the threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*).

Section 9 of the Act prohibits the take of any federally listed species by any person subject to the jurisdiction of the United States. As defined in the Act, take is defined as "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm has been further defined to include habitat destruction when it injures or kills a listed species by interfering with essential behavioral patterns, such as breeding, foraging, or resting. Thus, not only are the California red-legged frog, California tiger salamander, vernal pool fairy shrimp, San Joaquin kit fox, longhorn fairy shrimp, Conservancy fairy shrimp, least Bell's vireo, and the Alameda whipsnake protected from such activities as collecting and hunting, but also from actions that result in their death or injury due to the damage or destruction of their habitat. The Act prohibits activities that "...remove and reduce to possession any listed plant from areas under Federal jurisdiction; maliciously damage or destroy any such species on any such area; or remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law." The term "person" is defined as "...an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal government, of any State, municipality, or political subdivision of a State, or any other entity subject to the jurisdiction of the United States."

Take incidental to an otherwise lawful activity may be authorized by one of two procedures. If a Federal agency is involved with the permitting, funding, or carrying out of the project and a listed species is going to be adversely affected, then initiation of formal consultation between that agency and the Service pursuant to section 7 of the Act is required. Such consultation would result in a biological opinion addressing the anticipated effects of the project to the listed species and may authorize a limited level of incidental take. If a Federal agency is not involved in the project, and federally listed species may be taken as part of the project, then an incidental take permit pursuant to section 10(a)(1)(B) of the Act should be obtained. The Service may issue such a permit upon completion of a satisfactory conservation plan for the listed species that would be taken by the project.

IS Sec 7 required during CEQA process

As part of the environmental review for this proposed project, the Service recommends that habitat evaluations and/or surveys, as appropriate, by qualified biologists following Service and California Department of Fish and Game protocols be completed for the California red-legged frog, California tiger salamander, vernal pool fairy shrimp, San Joaquin kit fox, longhorn fairy shrimp, Conservancy fairy shrimp, least Bell's vireo, and the Alameda whipsnake in the action area. We recommend the City of Concord provide us and the California Department of Fish and Game with the results of these habitat assessments and/or surveys. If it is determined that the proposed project may result in take or adverse effects to any of these eight listed species, and/or other federally listed species under the authority of the Service, we recommend that the City of Concord seek authorization for incidental take for the appropriate listed species pursuant to

sections 7 or 10(a)(1)(B) of the Act, as appropriate, for the entire "Inland Area" of the Concord Naval Weapons Station rather than on a piece-meal basis.

Birds HHT I (6)
herps I (1)
Mammals I (1)
Plant HHT III (3)
Nesting/foraging habitat raptors

We recommend adequate habitat assessments/surveys, as appropriate, for the burrowing owl (*Spetylo cunicularia*), loggerhead shrike (*Lanius ludovicianus*), white-tailed kite (*Elanus leucurus*), horned lark (*Eremophila alpestris*), western spadefoot toad (*Spea hammondii*), tricolor blackbird (*Agelaius tricolor*), golden eagle (*Aquila chrysaetos*), Townsend's big-eared bat (*Corynorhinus townsendii*), big tarplant (*Blepharizonia plumosa*), round-leaved filaree (*Erodium macrophyllum*), Mount Diablo fairy-lantern (*Calochortus pulchellus*), Mount Diablo manzanita (*Arctostaphylos auriculata*), Diablo helianthella (*Helianthella castanea*), Brewer's dwarf flax (*Hesperolinon brewerí*), adobe navarretia (*Navarretia nigelliformis* ssp. *nigelliformis*), showy madia (*Madia radiata*), and nesting and foraging habitat for raptors be completed by a qualified biologist(s) in the action area. Photocopies of the data and findings from the habitat assessments/surveys should be provided to the Service and the California Department of Fish and Game. The Service recommends that adequate avoidance or conservation measures be implemented if it is determined that any of these species will be adversely affected by the proposed project.

other species

The on-going loss and reduction in terrestrial movement corridors in this portion of Contra Costa County also is of concern to the Service. The proposed project likely will adversely impact movement of animals such as the California red-legged frog, California tiger salamander, San Joaquin kit fox, Alameda whipsnake, black-tailed deer (*Odocoileus hemionus*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), and American badger (*Taxidea taxus*) through the grasslands and other habitats in the hills west and south of State Route 4 and north of the City of Concord and extending into northeastern Contra Costa County. Inadequate wildlife corridors are problematic because they may lead to differential use of the corridors, leading to changes to natural community composition over time and may allow non-native species a competitive advantage over native species. However, the width and necessary characteristics of a useable wildlife corridor have not been fully documented. One study in southern California found that mountain lion (*Felis concolor*) corridors needed to be located along natural travel routes, contain ample woody cover, lack artificial outdoor lighting, and have less than one human dwelling unit per 40 acres (Beir 1995). The width of wildlife corridors in several studies have varied from 300 feet to more than 3 miles, depending upon the species, type of habitat, and other factors, and there is general agreement that the longer the corridor, the wider it needs to be for animals to effectively move through it (Andreassen *et al.* 1996; Beier and Noss 1998; Beier and Loe 1991; Danielson and Hubbard 2000; Rosenburg *et al.* 1997).

For the issue of habitat connectivity and wildlife migration, impacts are extremely difficult to adequately evaluate on a case-by-case basis. This is because these issues occur at the landscape level and any meaningful analysis and mitigation must occur at that level as well. There are a number of proposed projects including the Bailey Estates, as well as smaller projects, such as individual homes, in this area of Contra Costa County. Wildlife migration and habitat connectivity are landscape level issues, are rooted in regional context, should be evaluated at the highest level (biologically and geographically) and are most effectively mitigated at the landscape level. We strongly recommend that the City of Concord coordinate closely with the

East Contra Costa County Habitat Conservation Plan Association to ensure that the proposed project does not preclude or prevent any conservation strategies (i.e. movement corridors) currently being implemented for that regional conservation plan (County of Contra Costa *et al.* 2006).

2 anadromous Fish

The City of Concord should contact NOAA - Fisheries regarding the potential effects of this project on the threatened Central California steelhead (*Oncorhynchus mykiss*), threatened California coast coho salmon (*Oncorhynchus kisutch*), and other listed species, and animals and plants under their authority. The NOAA - Fisheries contact may be reached at: Jonathan.Ambrose@noaa.gov.

If you have any questions regarding this letter on the Concord Community Reuse Project at the Concord Naval Weapons Station, please contact Chris Nagano, Deputy Assistant Field Supervisor at the letterhead address, electronic mail at Chris_Nagano@fws.gov, or at telephone 916/414-6600.

Sincerely,

for Cay C. Goude
Assistant Field Supervisor
Endangered Species Program

cc:
Scott Wilson, California Department of Fish and Game, Yountville, California
Janice Gan, California Department of Fish and Game, Tracy, California
Marcia Grefsrud, California Department of Fish and Game, Tracy, California
Nicole Kozicki, California Department of Fish and Game, Yountville, California
Dee Warenycia, California Department of Fish and Game, Sacramento, California
Jonathan Ambrose, NOAA-Fisheries, Santa Rosa, California
Brian Wines, State Water Resources Control Board, Oakland, California
Brendan Thomas, State Water Resources Control Board, Oakland, California
John Kopchik, County of Contra Costa, Martinez, California

Literature Cited

Andreassen, H.P., S. Halle, and R.A. Ims. 1996. Optimal width of movement corridors for root voles: not too narrow and not wide. Journal of Applied Ecology 3:63-70.

Beier, P. and S. Loe. 1991. Checklist for evaluating impacts to wildlife corridors. Wildlife Society Bulletin 20:434-440.

Beier, S. and R.F. Noss. 1998. Do habitat corridors really provide connectivity? Conservation Biology 12:1241-1252.

County of Contra Costa, City of Brentwood, City of Clayton, City of Oakley, City of Pittsburg, Contra Costa Water District, and East Bay Regional Park District. 2006. East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan. Martinez, California.

Danielson, B.J. and M.W. Hubbard. 2000. The influence of corridors on the movement behavior of individual *Peromyscus polionotus* in environmental landscapes. Landscape ecology 15:323-331.

Rosenburg, D.K., B.R. Noon, and E.C. Meslow. 1997. Biological corridors: form, function, and efficacy. BioScience 47:677-687.

CITY OF CONCORD
1950 Parkside Drive MS/56
Concord, California 94519-2578
FAX: (925) 798-0636

Telephone: (925) 671-3024

CITY COUNCIL
Mark A. Peterson, Mayor
William D. Shinn, Vice Mayor
Helen M. Allen
Michael A. Chavez
Laura M. Hoffmeister

Mary Rae Lehman, City Clerk
Thomas J. Wentling, City Treasurer

Lydia E. Du Borg, City Manager

August 28, 2007

Chris Nagano
Sheila Larsen
U.S. Fish and Wildlife Service
Sacramento Field Office
2800 Cottage Way, W-2605
Sacramento, CA 95825-1846

Marcia Grefsrud
Janice Gan
Department of Fish and Game
P.O. Box 47
Yountville, CA 94599

Concord Naval Weapons Station (USFWS Reference No. 1-1-07-TA109)

Dear Colleagues:

On behalf of the City of Concord, I want to thank you for joining us on August 1st for a site visit and meeting to discuss biological resource issues associated with the reuse planning efforts for the Concord Naval Weapons Station. It was valuable to obtain your input while our early planning efforts are underway. It was also helpful to discuss in more detail some of the comments which the U.S. Fish and Wildlife Service provided in its May 18, 2007 letter in response to the City's CEQA Notice of Preparation.

As a follow-up to our meeting, I thought it might be helpful to summarize for you the key milestones in the reuse planning and approval process. Congress approved the closure of the CNWS in late 2005. Following that, the City (acting through the City Council) was designated as the Local Reuse Authority for purposes of the Navy's base closure process. The City initiated a community outreach effort, which resulted in the formation of a Community Advisory Committee and the development of some broad planning objectives for the 5,000 acre site. Beginning earlier this year, the City has been soliciting input from the community, interest groups, and regulatory agencies regarding potential reuse alternatives and related issues. As part of that process we held three public planning workshops, the last of which occurred on August 4th. Based on this input, we anticipate identifying several potential reuse alternatives next month, each of which will then be analyzed in a program-level Environmental Impact

Report. The Draft EIR will be released for public review and comment in early 2008, and the Council plans to select a reuse plan and certify a Final EIR by mid-2008.

On the Navy side, the Navy will prepare an Environmental Impact Statement based on the City's selected reuse plan, beginning in mid-2008. The Navy anticipates that it will issue its Final EIS in mid-2009. As we discussed, the Navy will also engage in a Section 7 consultation with the Service beginning in 2008, after the City adopts the reuse plan.

Implementation of the reuse plan would begin after the City and the Navy issue their requisite approvals. Specific development projects will likely then require more detailed, project-level analysis under CEQA.

As we described, both the Navy and the City are currently conducting additional studies of biological resources on the site. Based on the feedback you provided us, we will evaluate whether and when further studies should be performed, in light of the overall process described above. We will also further evaluate the potential alternatives for both satisfying the Navy's Section 7 obligation in terms of its disposal of the property, and the incidental take permitting obligations associated with whatever land use activities are specified in the reuse plan. We would like to meet with you again to continue our discussions on these issues, perhaps in roughly 60 days.

During our meeting, you asked for copies of existing biological resource reports and studies. I am enclosing copies of the following three documents:

1. Department of the Navy Base Realignment and Closure Program Management Office. April 28, 2006. Final Environmental Condition of Property Report for the Naval Weapons Station, Seal Beach Detachment Concord, Concord, California.

2. Smallwood, K. Shawn and Morrison, Michael L. 22 January 2007. A Monitoring Effort to Detect the Presence of the Federally Listed Species California Tiger Salamander and California Red-Legged Frog at the Naval Weapons Station, Seal Beach, detachment Concord, California.

3. Tetra Tech, Inc. October 2001. Draft Integrated Natural Resources Management Plan and Environmental Assessment, Naval Weapons Station Seal Beach, detachment Concord, California.

Thank you again for meeting with us. We look forward to working with you as the reuse planning and implementation process moves forward.

Very truly yours,

Ric Notini

Ric Notini
Project Manager

cc: Michael Wright, City of Concord
Patrick McCay, Navy BRAC
Robert Palmer, NAVFAC Southwest
Mike Concannon, CH2M Hill
Jim Jordan, ARUP
David Moser, Ebbin Moser + Skaggs LLP

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.pjm/0034
OCT 1 5 2007

Ms. Cay C. Goude
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

SUBJECT: PROPOSAL TO CONDUCT SURVEYS FOR SPECIES LISTED UNDER THE FEDERAL ENDANGERED SPECIES ACT IN SUPPORT OF THE PROPOSED DISPOSAL AND REDEVELOPMENT OF THE INLAND AREA OF NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CONTRA COSTA COUNTY, CALIFORNIA

Dear Ms. Goude:

This letter continues the informal consultation process between the Department of the Navy (DoN) and your agency in accordance with Section 7 of the Endangered Species Act as outlined under 50 CFR 402.13 for the proposed disposal and redevelopment of the Inland Area at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord). The informal consultation process was initiated with your agency on August 1, 2007 at meeting held at NAVWPNSTA Seal Beach Det Concord that was attended by Ms. Sheila Larsen and Mr. Chris Nagano representing your office. A second meeting to continue the informal consultation process was held at NAVWPNSTA Seal Beach Det Concord on September 21, 2007 and was attended by Mr. Nagano. Based on the results of those meetings, the DoN has developed a proposal to conduct surveys for species listed under the Federal Endangered Species Act in the Inland Area in support of a biological assessment for the disposal and redevelopment of the Inland Area.

Federally Listed Species to be Considered

California red-legged frog (*Rana aurora draytonii*)
California tiger salamander (*Ambystoma californiense*)
Alameda whipsnake (*Masticophis lateralis euryxanthus*)
Vernal pool fairy shrimp (*Branchinecta lynchi*)
Longhorn fairy shrimp (*Branchinecta longiantenna*)
Conservancy fairy shrimp (*Branchinecta conservation*)
Least Bell's vireo (*Vireo belli pusillus*)
San Joaquin kit fox (*Vulpes macrotis mutica*)

Proposed Field Data and Survey Requirements for Each Federally Listed Species

California Red-legged Frog. The DoN proposes to use the existing survey data in the report titled "A Monitoring Effort to Detect the Presence of the Federally Listed Species California Tiger Salamander and California Red-legged Frog at the Naval Weapons Station, Seal Beach, Detachment Concord, California" dated January 22, 2007. This survey effort was conducted following the U. S. Fish and Wildlife Service protocol dated February 18, 1997 that was in effect at the time of these surveys. No additional field surveys are proposed.

California Tiger Salamander. The DoN proposes to use the existing survey data in the report titled "A Monitoring Effort to Detect the Presence of the Federally Listed Species California Tiger Salamander and California Red-legged Frog at the Naval Weapons Station, Seal Beach, Detachment Concord, California" dated January 22, 2007. The DoN also proposes to conduct a California tiger salamander upland habitat study.

The upland habitat study will include a burrow study and nocturnal surveys. The burrow study area will include areas within about 2 kilometers of known breeding ponds (up to approximately 2,500 acres); within the zone of land between the proposed Los Medanos Hills open space and Mount Diablo Creek. Nocturnal surveys will focus on those areas of burrow concentrations identified during the burrow study. We assume that the California tiger salamander does not occur or will not be affected by the proposed action outside of the study area.

A burrow complex survey will be conducted by walking transects approximately 30 feet apart across upland habitat adjacent to known breeding ponds. Major burrow concentrations (not single burrows) will be recorded and mapped using a Trimble GeoXT Global Positioning System. In addition, to the extent that is feasible, large cracks in the soil directly adjacent to known breeding ponds that could provide aestivation habitat for California Tiger Salamander will also be mapped. Burrow concentrations will be compared against accepted upland habitat distribution as documented and available in the current scientific literature. If additional time is necessary, a budget augmentation will be required.

Following the burrow complex field work, nocturnal surveys will be conducted during the rainy season on seven separate nights. The surveys will focus on areas identified during the burrow complex study as supporting heavy concentrations of small mammal burrows. Surveys will be conducted during the optimal conditions, 45-50° F (7-10° C) or greater air temperature when it has rained during the day and continues after dark. Burrow concentration areas will be surveyed using transects no farther than 30 feet apart. The distance between transects will be adjusted depending on the number of burrows in the area. Transects will be walked slowly using

flashlights and headlamps to scan either side. All small mammal burrows will be visually inspected.

During nocturnal surveys, any observed California Tiger Salamander will be sexed if possible, measured (snout vent and total length) and photographed before returning them to the exact capture location in the same direction of travel. The location of the captured California Tiger Salamander will also be mapped and the apparent direction of travel will be noted.

Upon completion of the field work and data collection effort, a constraints based analysis will also be completed. This analysis will be map-based and will demonstrate, based on the data compiled and collected for California Tiger Salamander, areas with low, medium and high constraints for development.

Alameda Whipsnake. The DoN proposes to conduct a habitat assessment to determine if suitable habitat is present in the Inland Area for the Alameda whipsnake. If suitable habitat is determined to be present, then the DoN proposes to conduct occupancy surveys. The details of the occupancy surveys will be developed in consultation with your office.

Vernal Pool Fairy Shrimp Species. The DoN proposes to sample for all three fairy shrimp species described above in potential habitat areas identified in the Inland Area during the recent vernal/seasonal pool surveys conducted May through September of this year. Fairy shrimp surveys shall follow the U.S. Fish and Wildlife Service approved protocol titled "Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal pool Branchiopods" dated April 19, 1996. Due to time constraints, surveys will only be conducted for one wet season and one dry season and are currently proposed to be completed between November 2007 and September 2008.

Least Bell's Vireo. The DoN proposes to conduct a habitat assessment to determine if suitable habitat is present in the Inland Area for the least Bell's vireo. If suitable habitat is determined to be present, then the DoN proposes to conduct occupancy surveys. These surveys shall follow the U.S. Fish and Wildlife Service approved protocol titled "Least Bell's Vireo Survey Guidelines" dated January 19, 2001.

San Joaquin Kit Fox. The DoN proposes to use existing information from other nearby locations and information regarding the quality of the habitat on site to show that the likelihood that the San Joaquin kit fox utilizes the habitat on site is negligible. Therefore, the DoN is not proposing to survey for the kit fox in the Inland Area.

5090
Ser BPMOW.pjm/0034
OCT 1 5 2007

We would appreciate a response from your agency indicating whether you concur with our approach or whether you recommend modifications. Any questions may be directed to Mr. Robert Palmer, Fish and Wildlife Biologist, at (619) 532-1817. Thank you for your time and we look forward to working closely in the future with your agency on the Section 7 consultation for the disposal and redevelopment of the Inland Area.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

Copy to:
Michael Wright
1950 Parkside Drive
Concord, CA 94519

Liam Davis
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.jmh/0637
AUG 6 2008

Ms. Cay C. Goude
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

Dear Ms. Goude:

This letter continues the informal consultation process between the Department of the Navy (DoN) and your agency in accordance with Section 7 of the Endangered Species Act as outlined under 50 CFR 402.13 for the proposed disposal and redevelopment of the Inland Area at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord). The DoN previously provided you with a letter dated October 15, 2007 that detailed the proposed surveys and/or habitat assessments for species listed under the Federal Endangered Species Act to be conducted at NAVWPNSTA Seal Beach Det Concord. The DoN has completed one habitat assessment to date for the Least Bell's Vireo (*Vireo belli pusillus*). The final results of the habitat assessment are provide in the enclosed report titled "Least Bell's Vireo Habitat Assessment in Support of the Environmental Impact Statement (EIS) for Disposal and Redevelopment of the Naval Weapons Station Seal Beach Detachment Concord, California" dated July 21, 2008. The habitat assessment determined that the Inland Area of NAVWPNSTA Seal Beach Det Concord lacks suitable nesting habitat for the Least Bell's Vireo. Therefore, the DoN does not intend to conduct presence/absence surveys in the Inland Area for the Least Bell's Vireo.

Any questions regarding the results of the Least Bell's Vireo habitat assessment may be directed to Mr. Robert Palmer, Fish and Wildlife Biologist, at (619) 532-1817. Thank you for your time and we look forward to working closely in the future with your agency on the Section 7 consultation for the disposal and redevelopment of the Inland Area of NAVWPNSTA Seal Beach Det Concord.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

5090
Ser BPMOW.jmh/0637
AUG 6 2008

Enclosure: 1. Least Bell's Vireo Habitat Assessment in Support of the Environmental Impact Statement (EIS) for Disposal and Redevelopment of the Naval Weapons Station Seal Beach Detachment Concord, California

Copy to: (w/encl)
Michael Wright
1950 Parkside Drive
Concord, CA 94519

Liam Davis
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

5090
Ser BPMOW.jmh/0637
AUG 6 2008

Copy to:
J. Hill
P. McCay
X Drive file
Serial file

Writer: J. Hill, 2-0985
Typist: N. Lilley, 08/06/08

Email/USFWSLetter080508.doc

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
81420-2008-I-1543-1

August 28, 2008

Mr. John Hill
Attn: Robert Palmer
Base Realingment and Closure
Program Management Office West
1455 Frazee Road Suite 900
San Diego, California 92108-4310

Subject: Non-Concurrence with the Conclusion of the Habitat Assessment for the Endangered Least Bell's Vireo at the Concord Naval Weapons Station in the City of Concord, Contra Costa County, California

Dear Mr. Hill:

This responds to your letter to the U.S. Fish and Wildlife Service (Service) dated August 6, 2008, at the accompanying report *Least Bell's Vireo Habitat Assessment in Support of the Environmental Impact Statement (EIS) for Disposal and Redevelopment of the Naval Weapons Station Seal Beach Detachment Concord California* dated July 21, 2008, (report) that was prepared by Ecology and Environment, Inc. At issue is the status of the State and Federal endangered least Bell's vireo (*Vireo bellii pusillus*) at the Concord Naval Weapons Station. This letter is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)(Act).

Our comments and recommendations are based on (1) the report; (2) *Concord Community Reuse Project Draft Environmental Impact Report (SCH# 2007052094)*(DEIR); (2)) *Integrated Natural Resources Management Plan and Environmental Assessment Naval Weapons Station Seal Beach, Detachment Concord California* dated March 2002 that was prepared by Tetra Tech; (3) *Final Environmental Condition of Property Report for the Weapons Station Seal Beach Detachment Concord, California* dated April 28, 2006, that was prepared by the U.S. Navy; (4) a visit to the Concord Naval Weapons Station by the Service, California Department of Fish and Game, U.S. Navy, City of Concord, and others on August 1, 2007; (5) *Draft Recovery Plan for the Least Bell's Vireo (Vireo bellii pusillus)* undated that was prepared by the Service; (6) *Least Bell's Survey Guidelines* dated January 19, 2001, that was prepared by the Service; (7) letter

TAKE PRIDE IN AMERICA

from the Department and the Service to the City of Concord regarding the draft environmental report for the Concord Community Reuse Project SCH 2007052094 (Service file 81420-2008-TA-1543), that was dated July 17, 2008; and (8) other information available to the Service.

As a background, the Concord Naval Weapons Station lies within the historical range of the least Bell's vireo, which extended from northern Baja California, Mexico, to Tehama County, California. During the August 1, 2007, field visit, the Service observed numerous sections of Mount Diablo Creek with a heterogeneous vegetative structure, which appears to be an important determinant of site use for the least Bell's vireo (Service Undated). We observed cottonwood (*Populus fremontii*), elderberry (*Sambucus* species), and valley oak (*Quercus lobata*) with an understory composed in part, of willows (*Salix sp.*), mulefat (*Baccharis salicifolia*), and poison oak (*Toxicodendron diversiloba*); these areas may provide suitable habitat for the least Bell's vireo. In addition, recent Bay Area sightings of this endangered animal have been made in Santa Clara County at Coyote Creek in 2006, and Llagas Creek in 1997 and 2001 (California department of Fish and Game 2008a, 2008b). Least Bell's vireo breeding in northern California has also been found successful due to nesting in the San Joaquin National Wildlife Refuge (SJNWR) for three consecutive years from 2005 through 2007 (Jack Sparks, SJNWR, pers. comm. to C. Nagano). Although the SJNWR is not located within Contra Costa County, it is located in a nearby location in the Central Valley, suggesting that the endangered bird could successfully breed in the project vicinity. Since the listing of the species in 1986, there has been tremendous growth of its populations in southern California, especially Camp Pendleton and Prado Dam (Service 2006); individuals from these southern California populations may be recolonizing its former range in the central and northern portions of the State.

Your August 6, 2008, letter and report from July 21, 2008, stated that the habitat assessment has determined that the inland area of the Concord Naval Weapons Station lacks suitable nesting habitat for the endangered least Bell's vireo. The one day site assessment was conducted on March 18, 2008, by a consulting biologist, however, no information was provided on their experience or training with this endangered songbird. Four photographs of riparian habitat at the Concord Naval Weapons Station were included with the report; however, little to none of the characteristic riparian trees and heavy understory observed at a number of locations in Mount Diablo Creek by the Service on our August 11, 2007, field visit are evident. This may be due to the possibility that the photographs in the report were taken in March, a time period before most riparian plants have sprouted leaves. The arrival of least Bell's vireo at its breeding sites from its wintering grounds corresponds to the sprouting and leafing of riparian vegetation and the hatching and emergence of the insect species that serve as prey (Pete Sorensen, Service, pers. comm. to C. Nagano).

The Service does not concur with the U.S. Navy that suitable habitat for the least Bell's vireo does not exist in Mount Diablo Creek at Concord Naval Weapons Station. We recommend that an adequate survey for this endangered species be conducted by a qualified biologist(s) within Mount Diablo Creek on the Concord Naval Weapons Station. The survey methodology should be developed in coordination with the Service; the protocol should include the use of taped calls played by a biologist(s) possessing a valid Section 10(a)(1)(A) and a valid memorandum of understanding per Section 2081(a) of the California Department of Fish and Game Code, for this

listed species to elicit a response from any of the animals that may be present at the site during the appropriate time of year.

We remain interested in working with the U.S. Navy and the City of Concord in the reuse proposal for the Concord Naval Weapons Station in the resolution of the issues regarding endangered species and wildlife. Please contact Chris Nagano at telephone 916/414-6600 or electronic mail (chris_nagano@fws.gov if you have any questions regarding this letter.

Sincerely,

for Cay C. Goude
Assistant Field Supervisor
Endangered Species Program

cc:
Scott Wilson, Liam Davis, Susanne Gilmore, California Department of Fish and Game, Yountville, California
Jane Hicks, Regulatory Branch, U.S. Army Corps of Engineers, San Francisco, California
Brian Wines, State Water Resources Control Board, Oakland, California
Michael Wright, City of Concord, Concord, California

Literature Cited

California Department of Fish and Game. 2008a. RAREFIND. California Natural Diversity Data Base, Natural Heritage Division, Sacramento, California.

_____ 2008b. BIOSIS. Natural Heritage Division, Sacramento, California.

U.S. Fish and Wildlife Service (Service). Undated. Draft Recovery Plan for the Least Bell's Vireo (*Vireo bellii pusillus*). U.S. Fish and Wildlife Service, Portland, Oregon.

_____ 2006. Least Bell's Vireo (*Vireo bellii pusillus*) 5-Year Review Summary and Evaluation. Carlsbad Fish and Wildlife Office, U.S. Fish and Wildlife Service, Carlsbad, California.

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.pjm/0877
OCT 9 2008

Ms. Cay C. Goude
Assistant Field Supervisor
U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Dear Ms. Goude:

This is a response to your letter dated August 28, 2008, which expressed your non-concurrence with our conclusions in the Least Bell's Vireo Habitat Assessment in Support of the Environmental Impact Statement for Disposal and Redevelopment of Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord). In our assessment, we concluded that the habitat along Mount Diablo Creek was unsuitable breeding habitat for the least Bell's vireo, and that surveys to determine the presence or absence of this species were not warranted. Your comments and recommendations were based on many factors. We would like to address a few of the concerns/issues mentioned in your letter including the historical sightings of this species in northern California, the U.S. Fish and Wildlife Service (USFWS) observation of the survey area in 2007, timing of the survey, and the qualifications of the biologist who conducted the assessment.

For our assessment, we conducted a reconnaissance level survey, and collected local observations that were reasonably obtainable. As noted by USFWS, a breeding least Bell's vireo pair was recorded from 2005 through 2007 at the San Joaquin National Wildlife Refuge (SJNWR) in Stanislaus County. The high quality riparian habitat at this site encompasses 1,700 acres which is the largest block of contiguous riparian in the San Joaquin Valley (http://www.fws.gov/sanluis/sanjoaquin_info.htm), and is not comparable to the narrow, low quality riparian habitat of Mount Diablo Creek.

In Santa Clara County, two least Bell's vireos were observed in May 1997 along Llagas Creek between the Pajaro River and Highway 152, east of Gilroy (Santa Clara Valley Water District 2002, Bousman 2007). In May 2001, three adults were discovered in this same area, but later visits failed to detect this species (Santa Clara Valley Water District 2002, 2003, 2004). Other dense riparian corridors within Santa Clara County have failed to yield least Bell's vireo sightings during Santa Clara Valley Water District surveys (Santa Clara Valley Water District 2002, 2003, 2004). One least Bell's vireo was detected along Coyote Creek near the local golf club (South Bay Birders Unlimited 2006).

While these are sightings of least Bell's vireos within the species' historic range, they are well north of the current recognized breeding range of southern California. These observations also

occurred in large riparian corridors with well-established canopies and dense understories. Additionally, it is notable that Mount Diablo Creek at Concord is approximately 55 miles north of Coyote Creek, approximately 70 miles north of Llagas Creek, and approximately 90 miles north of SJNWR.

The USFWS visited the subject site on August 1, 2007, and reportedly observed "*characteristic riparian trees and heavy understory at a number of locations in Mount Diablo Creek...*" Our contracted biologist respectfully disagrees with this assessment, based upon considerable experience in habitats that are occupied by nesting least Bell's vireos. The understory and riparian habitat at NAVWPNSTA Seal Beach Det Concord, specifically along Mount Diablo Creek, is not managed for wildlife, contains non-native plants such as tree tobacco (*Nicotiana glauca*) and Himalayan blackberry (*Rubus discolor*), and is in fact very sparse and poorly developed when compared against riparian habitats that are used by least Bell's vireos. Furthermore, least Bell's vireo requires breeding territories between 0.5 and 7.4 acres (Kus 2002), habitat in excess of that available at the Mount Diablo Creek riparian area. The photographs provided with the Habitat Assessment are representative of the entire length of Mount Diablo Creek.

The USFWS expressed concern that the survey timing preceded the time when most riparian plants would have fully sprouted leaves. However, we noted a lack of understory vegetation density, and absence of vegetative structure evident regardless of foliage development. The March 18, 2008 date of the least Bell's vireo habitat assessment for the site coincided with the species' migration and early territory establishment before eggs are laid in early April (Brown 1993).

Lastly, the USFWS expressed concern about the qualifications of the biologist who conducted the habitat assessment. The contracted ornithologist and least Bell's vireo biologist, Matthew Alexander, works for Ecology & Environment, Inc., and lived in San Diego County for nearly a decade. During that time he received his Master's Degree in Biology (emphasis in ornithology) from San Diego State University (SDSU) and worked as an ornithologist for the California Department of Fish and Game (CDFG), US Geological Survey (USGS), and SDSU. For USGS, Mr. Alexander worked at mist-netting stations at Marine Corps Air Station (MCAS) Camp Pendleton under the supervision of Dr. Barbara Kus, the recognized authority on the least Bell's vireo. He assisted in all aspects of processing resident and migratory birds in riparian areas of Camp Pendleton, including the least Bell's vireo and southwestern willow flycatcher. During that time he observed the nesting behavior and habitat preferences of least Bell's vireo as he assisted graduate students conducting studies on the San Diego population of this species.

During Mr. Alexander's employment with CDFG in San Diego County, he performed population monitoring surveys for the least Bell's vireo at San Felipe, Boden Canyon and

Rancho Jamul Ecological Reserves (ERs). He conducted territory mapping of least Bell's vireo at San Felipe ER before the winter removal of non-native tamarisk in potential least Bell's vireo riparian habitats. He performed population monitoring of other special-status birds, including California gnatcatcher at Carlsbad Highlands, Boden Canyon and Rancho Jamul ERs. He also designed and conducted the survey for a 40 point count station avian monitoring study to determine bird usage of San Felipe ER after the purchase of an additional 10,000 acres.

Mr. Alexander also conducted least tern and snowy plover breeding success monitoring at Batiquitos Lagoon ER and Upper Newport Bay ER, Orange County. He has conducted presence/absence surveys for other sensitive species, such as light-footed clapper rail, southwestern willow flycatcher, Belding's savannah sparrow, summer tanager, western yellow-billed cuckoo, and loggerhead shrike. Mr. Alexander conducted pre-construction raptor surveys to identify nesting raptors and active nesting sites in areas to be cleared of invasive trees (eucalyptus and tamarisk groves), performed habitat assessments, and special-status wildlife surveys to assess ecological value of possible land acquisitions.

While employed by SDSU, he instructed many biology courses including ornithology, and general biology. For four years, Mr. Alexander volunteered as a field guide for the weekly birding trips across San Diego County for the ornithology course. Many of these field trip locations have nesting avian species of special concern, such as least Bell's vireo, California gnatcatcher, Belding's savannah sparrow, light-footed clapper rail and loggerhead shrike. He also acted as manager of SDSU's Avian Genetic and Study Skins Museum. During this time he collected and prepared museum skins, processed genetic and study skin requests from other universities and museums, and trained undergraduate staff. For the SDSU Foundation, he conducted avian point count surveys for a riparian restoration project at MCAS Miramar. Mr. Alexander's qualifications are summarized in the attached Curriculum Vitae.

In summary, we feel strongly that our habitat assessment is a valid indication of potential for occurrence by least Bell's vireos; it was conducted at the appropriate time, by a qualified expert in the species' biology, and was based on sound judgment. The observations cited by USFWS are distant from the subject site at Concord, many are dated (some more than 10 years old), and, most importantly, relate to areas featuring much larger and higher quality habitats that simply are not present along Mount Diablo Creek. Considering all these factors, it remains our opinion that Mount Diablo Creek is low quality riparian habitat and unlikely to support breeding least Bell's vireo.

However, we would suggest that it may be beneficial to revisit the riparian habitat areas in question along Mount Diablo Creek and photograph or record a video of its length. This way, we could establish that our photos were representative of the habitat all along the creek, and questions as to the actual development of the riparian understory may be resolved.

5090
Ser BPMOW.pjm/0877
OCT 9 2008

If you would like to discuss the habitat assessment further, please contact Mr. Rob Palmer, Fish and Wildlife Biologist, at (619) 532-1817.

Sincerely,

JOHN M. HILL
Base Closure Manager
By Direction of the Director

Enclosures: 1. References Cited
2. Curriculum Vitae for Matthew Alexander

Copy to:
Michael Wright
1950 Parkside Drive
Concord. CA 945 19

Liam Davis
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
81420-2008-I-1545-2

October 31, 2008

Mr. John Hill
Attn: Robert Palmer
Base Realingment and Closure
Program Management Office West
1455 Frazee Road Suite 900
San Diego, California 92108-4310

Subject: Non-Concurrence with the Conclusion of the Habitat Assessment for the Endangered Least Bell's Vireo at the Concord Naval Weapons Station in the City of Concord, Contra Costa County, California

Dear Mr. Hill:

This is in response to your October 9, 2008, letter to the U.S. Fish and Wildlife Service(Service) regarding the endangered least Bell's vireo (*Vireo bellii pusillus*) at the Concord Naval Weapons Station. Your letter was received by this Field Office on October 16, 2008. This letter is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*)(Act).

Our comments and recommendations are based on 1) your October 9, 2008, letter; 2) a letter to the City of Concord prepared by the Service and the California Department of Fish and Game (Service file 81420-2008-TA-1543) dated July 17, 2008, and the material cited therein; 3) our letter to the U.S. Navy regarding the least Bell's vireo at the Concord Naval Weapons Station (Service file 81420-2008-I-1543-1) dated August 28, 2008; 4) *Concord Community Reuse Project Draft Environmental Impact Report (SCH# 2007052094)* ; 5) a visit to the Concord Naval Weapons Station by the U.S. Navy, City of Concord, Service, California Department of Fish and Game, and others on August 1, 2007; and 6) other information available to the Service.

According to the draft environmental impact report for this project, there are approximately 15 acres of riparian woodland/scrub within the Concord Naval Weapons Station. During the August 1, 2007, site visit, my staff observed areas along Mount Diablo Creek containing sufficient quantities and densities of willows, other riparian trees, and understory vegetation that likely provide suitable habitat for the least Bell's vireo.

TAKE PRIDE IN AMERICA

The Service does not concur with the conclusion of your habitat assessment which was conducted by your consultant in March. As a general rule, assessments made to evaluate the riparian habitat for this endangered songbird bird should be done after full leaf-out; this generally would be in the month of May in the east San Francisco Bay area. Most riparian plant species generally have not begun and/or have not completed sprouting or leaf-out in March, thus many riparian sites will look much different in the winter or early spring than they do later in the spring and early summer. Note that the least Bell's vireos that were detected at the San Joaquin National Wildlife Refuge were not observed until at least June of each year (presumably they were not present at the site earlier), and breeding for these animals was later (June-July) than it generally is for southern individuals (mostly April-June).

We recommend that, as described in our August 28, 2008, letter, to the U.S. Navy, an adequate survey be completed for the least Bell's vireo within Mount Diablo Creek at the Concord Naval Weapons Station. The Service is interested in working with you in the design of the survey protocol for this endangered bird at that site.

The Service remains interested in cooperatively working with the U.S. Navy and the City of Concord in the resolution of the issues regarding the endangered least Bell's vireo, other listed species, and wildlife. Please contact Chris Nagano, Chief of our Endangered Species Division, at the letterhead address, telephone at 916/414-6600, or electronic mail (Chris_Nagano@fws.gov) if you have any questions regarding this letter.

Sincerely,

Cay C. Goude
Assistant Field Supervisor
Endangered Species Program

cc:
Scott Wilson, Liam Davis, Suzanne Gilmore, California Department of Fish and Game, Yountville, California
Jane Hicks, Regulatory Branch, U.S. Army Corps of Engineers, San Francisco, California
Brian Wines, State Water Resources Control Board, Oakland, California
Michael Wright, City of Concord, Concord, California

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.pjm/1157
DEC 23 2008

Ms. Cay C. Goude
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

Dear Ms. Goude:

This letter continues the informal consultation process between the Department of the Navy (DoN) and your agency in accordance with Section 7 of the Endangered Species Act as outlined under 50 CFR 402.13 for the proposed disposal and redevelopment of the Inland Area at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord). The DoN previously provided you with a letter dated October 15, 2007 that detailed the proposed surveys and/or habitat assessments for species listed under the Federal Endangered Species Act to be conducted at NAVWPNSTA Seal Beach Det Concord. The DoN has completed the California Tiger Salamander Upland Habitat Study. The final results are provided in the enclosed report dated December 3, 2008.

Following informal consultations with your office and the California Department of Fish and Game, the Navy conducted this study to evaluate the potential suitability of Inland Area uplands as California tiger salamander non-breeding habitat, taking into account such factors as the location of documented breeding ponds, distance from known breeding ponds, known California tiger salamander dispersal distances, relative abundance of refugial burrows, and physical barriers to California tiger salamander movement. This report culminates with an upland habitat suitability analysis based on an analysis of these factors, dividing the Inland Area into multiple areas based on relative potential value to California tiger salamanders. This information is intended for use in connection with Inland Area reuse planning and future Section 7 consultations.

Any questions regarding the results of the California Tiger Salamander Upland Habitat Study may be directed to Mr. Patrick McCay at (619) 532-0906. Thank you for your time and we look forward to working closely in the future with your agency on the Section 7 consultation for the disposal and redevelopment of the Inland Area of NAVWPNSTA Seal Beach Det Concord.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

5090
Ser BPMOW.pjm/1157
DEC 2 3 2008

Enclosure: 1. California Tiger Salamander Upland Habitat Study Report, Naval Weapons Station Seal Beach Detachment Concord, California (2 Copies)

Copy to: (w/encl)
Liam Davis
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

Copy to: (w/o encl)
Bruce Knopf
1950 Parkside Drive
Concord, CA 94519

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
81420-2008-I-1545-3

December 26, 2008

Mr. John Hill
Attention: Patrick McCay
Base Realignment and Closure
Program Management Office West
U.S. Navy
1455 Frazee Road Suite 900
San Diego, California 92108-4310

Subject: Initial Comments on California Tiger Salamander Report for the Concord Naval Weapons Station in the City of Concord, Contra Costa County, California

Dear Mr. Hill:

This letter is response to the *California Tiger Salamander Upland Habitat Study Report Naval Weapons Station Seal Beach Detachment Concord, Contra Costa County, California.* It is a report on the results of studies conducted by EDAW in 2007 and 2008, and other studies, implemented for the threatened California tiger salamander (*Ambystoma californiese*) in portions of the Concord Naval Weapons Station. This document was received by the U.S. Fish and Wildlife Service (Service) on December 24, 2008. The Service is issuing this letter under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)(Act). Further questions and comments may be forthcoming from us, however, these initial comments are intended to assist you with your analysis of the effects of the closure of Concord Naval Weapons Station on the California tiger salamander.

The comments and recommendations in this letter are based on 1) *California Tiger Salamander Upland Habitat Study Report Naval Weapons Station Seal Beach Detachment Concord, Contra Costa County, California* (Final California tiger salamander report) dated December 3, 2008, that was prepared by EDAW; 2) *Concord Community Reuse Project Draft Environmental Impact Report (SCH# 2007052094)*; 3) a field meeting at the Concord Naval Weapons Station by the Service, California Department of Fish and Game, City of Concord, U.S. Navy, and others on August 1, 2007; and 4) other information available to the Service.

The California tiger salamander report evaluates the potential habitat suitability of some of the inland upland areas of the Concord Naval Weapons Station for the listed salamander based on known records of the animal, location of documented breeding ponds, distance from known

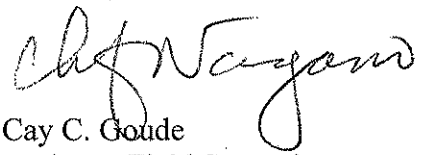
TAKE PRIDE IN AMERICA

breeding ponds, known dispersal distances of this listed amphibian, relative abundance of rodent burrows, and physical barriers to the animal. However, the document stated that it does not identify where the California tiger salamander does and does not occur at the Concord Naval Weapons Station, and it stated that the distribution of this threatened animal on the base during the non-breeding season when they reside beneath the ground in small mammal burrows is unknown. Finally, the California tiger salamander report stated that the portion of the base it examined excluded all areas west of Willow Pass Road because all prior surveys for the animal there have been negative.

We do not concur that a conclusion can be made at this time that the California tiger salamander is absent from the Concord Naval Weapons Station west of Willow Pass Road, based on the August 1, 2007, 2007, site visit, Final California tiger salamander report, and other information available to us. Therefore, pursuant to 50 CFR 402.1(c) and (d), we recommend that a protocol survey for this threatened animal be completed in this portion of the base, or the U.S. Navy assume this listed amphibian inhabits this area of the facility.

We remain interested in working with the U.S. Navy and the City of Concord in the resolution of issues regarding the closure of Concord Naval Weapons Station, endangered species, and wildlife. Please contact Chris Nagano, Chief of our Endangered Species Division, at the letterhead address, via electronic mail (Chris_Nagano@fws.gov), or at telephone 916/414-6600 if you have any questions regarding this letter.

Sincerely,



Cay C. Goude
Assistant Field Supervisor
Endangered Species Program

cc:
Scott Wilson, Liam Davis, Suzanne Gilmore, California Department of Fish and Game, Yountville, California
Jane Hicks, Regulatory Branch, U.S. Army Corps of Engineers, San Francisco, California
Brian Wines, State Water Resources Control Board, Oakland, California
Michael Wright, City of Concord, Concord, California

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.pjm/0019
JAN 14 2009

Ms. Cay C. Goude
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

Dear Ms. Goude:

This letter continues the informal consultation process between the Department of the Navy (DoN) and your agency in accordance with Section 7 of the Endangered Species Act as outlined under 50 CFR 402.13 for the proposed disposal and redevelopment of the Inland Area at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord). The DoN previously provided you with a letter dated October 15, 2007 that detailed the proposed surveys and/or habitat assessments for species listed under the Federal Endangered Species Act to be conducted at NAVWPNSTA Seal Beach Det Concord. The DoN has completed the habitat assessment for the Alameda whipsnake (*Masticophis lateralis euryxanthus*). The final results of the habitat assessment are provided in the enclosed report titled "Alameda Whipsnake Habitat Assessment in Support of the Environmental Impact Statement for Disposal and Redevelopment of the Naval Weapons Station Seal Beach Detachment, Concord, California" dated January 6, 2009.

Any questions regarding the results of the Alameda whipsnake habitat assessment may be directed to Mr. Robert Palmer, Fish and Wildlife Biologist, at (619) 532-1817. Thank you for your time and we look forward to working closely in the future with your agency on the Section 7 consultation for the disposal and redevelopment of the Inland Area of NAVWPNSTA Seal Beach Det Concord.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

Enclosures: 1. Alameda Whipsnake Habitat Assessment in Support of the Environmental Impact Statement for Disposal and Redevelopment of the Naval Weapons Station Seal Beach Detachment, Concord, California, January 6, 2009 (3 Copies)
2. Compact Disk of Enclosure 1 (3 Copies)

5090
Ser BPMOW.pjm/0019
JAN 14 2009

Copy to: (w/encl)
Bruce Knopf (3 Copies)
1950 Parkside Drive
Concord, CA 94519

Scott Wilson
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

Liam Davis
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

Suzanne Gilmore
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.pjm/0049
JAN 29 2009

Ms. Cay C. Goude
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

Dear Ms. Goude:

This letter is in response to your letter dated December 26, 2008 on the subject "Initial Comments on California Tiger Salamander Report for the Concord Naval Weapons Station in the City of Concord, Contra Costa County, California (81420-2008-I-1545-3)". Your letter states that you "do not concur that a conclusion can be made at this time that the California tiger salamander is absent from the Concord Naval Weapons Station west of Willow Pass Road, based on the August 1,2007 site visit, Final California tiger salamander report, and other information available to us. Therefore, pursuant to 50 CFR 402.1(c) and (d), we recommend that a protocol survey for this threatened animal be completed in this portion of the base, or the U.S. Navy assume this listed amphibian inhabits this area of the facility."

We appreciate your quick response to our report, which your office received on December 24, 2008; however, we respectfully disagree with your conclusions and recommendations. We have investigated potential breeding ponds across the entire base under the recent monitoring effort conducted by Smallwood and Morrison (2007). In that effort, we conducted larval sweeps around the entire base including the ponds west of Willow Pass Road (119, 120, 121, and 125). Drift fences were deployed around Pond 119 (west of Willow Pass Road), as well as 122, 123 and 124 (just east of Willow Pass Road). No adult or larval California tiger salamanders (CTS) were detected in that effort.

In the Smallwood and Morrison study, Ponds 121 and 125 show survey results on only one date (3/30/05). This is due to the fact that these ponds held water for a very limited time period. These years were generally wet years. The Smallwood and Morrison report states "January and February 2005 were wet at Concord, and numerous ponds existed where no pond had been seen in many years. Even more ponds appeared in 2006 after heavy rainstorms in January." So, if the ponds were unsuitable habitat in 2005 and 2006 (i.e. did not hold water long enough to support breeding for CTS), then these ponds would likely never support breeding in the future.

Ponds 121 and 125 are very shallow rain pools. In reviewing the pond duration data from the recent branchiopod surveys (see enclosure), it is quite apparent these pools could not have supported successful CTS breeding during 2008 even if CTS were present (a somewhat dry year). Also in 2008, Pond 120, did pond long enough to support breeding. The branchiopod surveys were sent to your office on September 9, 2008. Because the Smallwood and Morrison surveys

5090
Ser BPMOW.pjm/0049
JAN 29 2009

were completed during very wet years over two seasons and failed to detect CTS in these ponds, it is apparent that these ponds do not support CTS.

According to the upland survey methods discussed in the CTS Survey Protocol (http://www.fws.gov/sacramento/es/documents/cts_survey_protocol.PDF), a two year drift fence study is recommended if the "site has suitable upland habitat and a potential breeding pool lies within 1.2 miles (2 km)". We have conducted protocol surveys of breeding pools in the past, most recently the Smallwood and Morrison effort (2007), and found that the most western active breeding pond on or in the vicinity of the base is Pond 116. A 2 km radius mapped around Pond 116 is still well east of Willow Pass Road. Therefore, this supports our conclusion that a drift fence study is not required for the ponds west of Willow Pass Road.

Finally, the methodology we employed in the winter of 2008 to survey for CTS included a California ground squirrel (*Spermophilus beecheyi*) burrow study and nocturnal study for CTS. The decision to conduct a burrow study was based on recommendations from your office provided during two meetings held on August 1, 2007 and September 21, 2007. Following those meetings, the Navy decided to add a nocturnal study to the proposal. The Navy sent a letter dated October 15, 2007 to your office detailing our plans for the burrow survey and nocturnal study. The Navy did not receive a reply from your office indicating that we needed to add additional elements to the CTS survey effort. Also, a detailed CTS work plan and request to conduct nocturnal surveys was provided to your office by Ms. Lynn Hermansen on December 7, 2007. Mr. Chris Nagano approved the work plan with the only caveat being that a California ground squirrel burrow study also be conducted. This element that was requested by your office was included in the 2008 field work. Therefore, we were quite surprised to receive your recent letter requesting that we conduct drift fence surveys west of Willow Pass Road. We thought that based on our previous exchanges that we had agreed that burrow surveys and a nocturnal study were all that would be necessary for this field effort.

Any questions regarding the results of the California Tiger Salamander Upland Habitat Study may be directed to Mr. Patrick McCay at (619) 532-0906. Thank you for your time and we look forward to working closely in the future with your agency on the Section 7 consultation for the disposal and redevelopment of the Inland Area of NAVWPNSTA Seal Beach Det Concord.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

5090
Ser BPMOW.pjm/0049
JAN 29 2009

Enclosure: 1. Maximum Pond Depth in Inches during 2008 Vernal Pool Surveys

Copy to:
Liam Davis
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

Scott Wilson
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

Suzanne Gilmore
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

Bruce Knopf
1950 Parkside Drive
Concord, CA 94519

Maximum Pond Depth in Inches during 2008 Vernal Pool Surveys

	1/21/2008	2/3/2008	2/17/2008	3/2/2008	3/16/2008	3/31/2008	4/20/2008
119	DRY	14	9	10	9	DRY	DRY
120	3	6	DRY	7	5	DRY	DRY
121	16	16	13	15	16	15	DRY
122	DRY	DRY	DRY	DRY	DRY	DRY	DRY
123	8	4	DRY	DRY	DRY	DRY	DRY
124	8	7	2	DRY	DRY	DRY	DRY
125		DRY	DRY	DRY	DRY	DRY	DRY

Enclosure (1)

5090
Ser BPMOW.pjm/0049
JAN 29 2009

Copy to:
J. Hill
P. McCay
R. Palmer
X Drive file
Serial file

Writer: P.McCay, 2-0906
Typist: N. Lilley, 01/29/09

Email/ConcordCTSUplandUSFWSRespondeFinal.doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.pjm/0015
OCT 19 2009

Ms. Cay C. Goude
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

Dear Ms. Goude:

This letter continues the informal consultation process between the Department of the Navy (DoN) and your agency in accordance with Section 7 of the Endangered Species Act, as outlined under 50 CFR 402.13 for the proposed disposal and redevelopment of the Inland Area at the former Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord). On August 6, 2008, our office submitted a habitat assessment for least Bell's vireo (*Vireo belli pusillus*) which concluded that NAVWPNSTA Seal Beach Det Concord lacks suitable nesting habitat for the species. In your most recent letter regarding the least Bell's vireo at Concord dated October 31, 2008, you maintained your recommendation that "an adequate survey be completed for the least Bell's vireo within Mount Diablo Creek".

On March 30, 2009, Mr. David Bise of Foothill Associates submitted a letter with proposed protocol for least Bell's vireo surveys at Concord on behalf of the Navy. Chris Nagano of your office responded with concurrence in an email dated April 1, 2009.

The DoN has completed the approved least Bell's vireo surveys. The final results of the surveys are provided in the enclosed report dated October 7, 2009. No least Bell's vireos were found or heard during these protocol surveys. Therefore, the DoN concludes that least Bell's vireos are absent at the NAVWPNSTA Seal Beach Det Concord and will not be affected by disposal and redevelopment activities.

Any questions regarding the results of the least Bell's vireo surveys may be directed to Dr. Albert Owen, Natural Resources Specialist, at (619) 532-3775. Thank you for your time and we look forward to working closely in the future with your agency on the Section 7 consultation for the disposal and redevelopment of the Inland Area of NAVWPNSTA Seal Beach Det Concord.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

5090
Ser BPMOW.pjm/0015
OCT 19 2009

Enclosures: 1. Least Bell's Vireo Survey Report, 7 October 2009
2. Compact Disk of Survey Report

Copy to: (w/encl 2 only)
Michael Wright
1950 Parkside Drive
Concord, CA 94519

Liam Davis
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

Ser BPMOW.pjm/0365
MAR 10 2010

Mr. Chris Nagano
United States Fish & Wildlife Service
2800 Cottage Way, Room W2605
Sacramento, CA 95825

Dear Mr. Nagano:

In accordance with the requirements of Section 7 of the Endangered Species Act, I am seeking your concurrence that certain archaeological field work to be performed at the former Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Concord)by the Department of the Navy is not likely to adversely affect the threatened California red-legged frog (*Rana. aurora draytonii*) or the threatened California tiger salamander (*Ambystoma californiense*). This fieldwork will be performed to determine if archaeological sites at NAVWPNSTA Concord are eligible for the National Register of Historic Places in accordance with Section 106 of the National Historic Preservation Act.

The enclosed Draft Work Plan was developed taking into account potential effects to the California red-legged frog and California tiger salamander. Also enclosed is a base-wide map that shows the location of archaeological sites in relation to potential upland habitat for the California tiger salamander. Work conducted outside of mapped potential upland habitat for the California tiger salamander, which also may be used by the California red-legged frog, will have no effect on listed species.

Section 4.1 of the Work Plan summarizes the five main types of data collection in the field. Table 4.1 of the Work Plan provides a simple summary of the proposed field work at each site.

Surface Inspections. Field work proposed for all sites includes advance surface inspections. For the surface inspections, a field crew will walk the sites and use pin flags to denote the existence of artifacts or relevant surface features. At historic sites, surface inspections will include use of a metal rod to probe the soil for potential buried refuse deposits. These surface inspections will have no effect on listed species, including the California red-legged frog and California tiger salamander.

Surface Collections. Sites which include surface collections are CCO-791H, P-860, P-861, CCO-680 and CCO-786. Surface collections involve essentially no subsurface soil disturbance. There are three options for surface collections: piece plot, controlled surface collection (CSC), and grab samples. Piece plot collection involves the collection of individual artifacts from the surface. CSCs are grid collection units, typically 15-x-15-meter (m) in size with 5-x-5-m collection cells. CSCs are most useful when surface densities are high enough to warrant the time spent erecting the grids. Finally, the grab sample is a quick method of gathering all remaining cultural material from the surface in one sample regardless of individual provenience.

This method is often used to collect debitage or historic glass/ceramics from the surface outside of CSCs or when piece plot collection has finished. Surface collections will have no effect on listed species including the California red-legged frog and California tiger salamander.

Shovel Test Pits. Sites which include shovel test pits are CCO-791H, P-860, P-861, CCO-680 and CCO-786. Excavations will be initiated with Shovel Test Pits (STPs) using basic hand tools. These units measure 0.5-x-0.25-m and are the volumetric equivalent to a 0.4-centimeter (cm)-diameter STP. STPs are excavated in 20-cm increments. Generally, STPs will be excavated to a minimum depth of 60-cm or until sterile soils or bedrock is encountered and to a maximum depth of 1-m.

Control Units. The results from surface inspections and STP excavations will be used to guide the placement of Control Units (CUs). Control Units will be excavated at sites CCO-791H, P-860, P-861, CCO -680, and CCO-786. The basic CU measures 1-x-1-m and is carefully excavated in 10-cm increments following the natural contour of the ground surface. A 10-x-10-cm column sample will be excavated from each CU. The location of column samples in each unit will be determined based on field conditions. Column samples are excavated in 10-cm increments with all matrix and cultural materials being collected as a single flotation sample per level.

It is likely that wet-screening will be required to efficiently process excavated sediments. The water screening setup will be located outside of habitat areas for the California red-legged frog and California tiger salamander; and include multiple layers of silt fencing, hay bales, and hay waddles to trap silt from runoff. Excavated matrix material will be used to carefully backfill all STPs and CUs.

Sites P-860, P-861, and CCO-791H, which include STPs and CUs, occur within potential habitat for the California tiger salamander and California red-legged frog. All efforts will be made to avoid unnecessary earth moving. If open burrows or cracks are located on the surface of a proposed excavation unit, it may be necessary to avoid it or inspect it with fiber-optic cameras. A qualified biologist will be present during all excavations to ensure that California tiger salamanders and California red-legged frogs are not present in hand excavation areas. Careful incremental hand excavation of STPs and CUs, use of fiber-optic cameras and monitoring by a qualified biologist ensures that field work at these sites is not likely to adversely affect listed species. It should also be noted that proposed hand excavation within this relatively small study area for each of the three sites represents significantly less disturbance than setting up fencing/trapping array per the California tiger salamander upland survey protocol.

Backhoe trenches. Backhoe trenches will be excavated at CCO-680 and CCO-786 to explore larger areas of the cultural deposit and to search for buried features/landforms. Backhoe trenches will be a maximum of 0.66-m wide, 15-m long, and 2.5-m deep. Both sites with backhoe

trenches are located outside of suitable habitat for the California tiger salamander and California red-legged frog. Therefore, this work will have no effect on listed species.

In summary, surface inspections and surface collections will have no effect on listed species because these activities essentially require no ground disturbance. Excavations at CCO-680 and CCO-786, which includes backhoe trenches, would have no effect on listed species as these sites are located outside of suitable habitat for the California tiger salamander and California red-legged frog. Sites P-860, P-861, and CCO-791H, which include STPs and CUs, occur within potential habitat for the California tiger salamander and California red-legged frog. However, careful incremental hand excavation of STPs and CUs, use of fiber-optic cameras and monitoring by a qualified biologist shall ensure that the field work at these sites is not likely to adversely affect listed species. We request your concurrence that the Navy's proposed archaeological fieldwork is not likely to adversely affect listed species. A response within 30 days of receipt of this letter would be greatly appreciated.

Thank you for your efforts in this matter. If you require additional information, please contact Dr. Albert Owen at (619) 532-3775 or albert.owen@navy.mil.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

Enclosures: 1. Draft Work Plan for Archaeological Evaluations and Eligibility Investigations in Support of the EIS for Naval Weapons Station Seal Beach, Detachment Concord, Contra Costa County, California
2. Map of Archaeological site and Habitat

Copy to:
Mr. Liam Davis
California Department of Fish and Game
P.O. Box 70
Yountville, CA 94599

DRAFT MAP

FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD

INLAND AREA AOPI, IR SITES, MRP SITES, TIGER SALAMANDER HABITAT AND ARCHEOLOGICAL SITES

ChaduxTt JV
Consulting Engineers and Scientists

0 1,000 2,000 4,000
Feet

Notes:
1. California Tiger Salamander data courtesy of EDAW 2008. "California Tiger Salamander Upland Habitat Study Report Naval Weapons Station Seal Beach Detachment Concord, Contra Costa County, California."
2. Aerial Photo, ESRI, dated 06/15/2006

AOPI	Area of Potential Interest
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
IR	Installation Restoration
MRP	Munitions Response Program

Richmond
Concord
Walnut Creek
Berkeley
Oakland
San Francisco

SWMU 2, 5, 7, & 18
Building IA-7, IA-12, IA-15, IA-16
Site 22A Group 1 Magazine Area
Site 22A Group 2 Magazine Area
Building 87
Building 81
Site 22A Group 3 Magazine Area
Site 24A Pistol Range
Eagle's Nest EOD
Site 22A Group 4 Magazine Area
Site 22A Group 5 Magazine Area
Site 22 Group 6 Magazine Area
Building 93
IA-100 Disposal Area
Building 97
Bermed Area
Northern Railroad Excavation A
Northern Railroad Excavation B
Northern Railroad Excavation C
Former Inland Burn Area/ Railroad Sidings Excavation Area
Site 13 Burn Area
Unocal Site
Guam Way Site
IA-25 Outfeature
Site 29 Building IA-25
IA-27 Disposal Area
HE-5

CCO-788H[1]
CCO-781H[1]
CCO-780H[1]
CCO-785H[1]
CCO-786[3]
CCO-787H[1]
P-860[2]
P-861[2]
CCO-791H[2]
CCO-777H[1]
CCO-680[3]

Contra Costa Canal
Mt Diablo / Seal Creek
Seal Creek
Port Chicago Hwy
Highway 4
Kinne Blvd
A St
Leyte St
Second St
Third St
H St
Willow Pass Rd
I St
K St
Guam Way
G St
Tarawa Way
Cocoa River Rd
Chosin Drive
Kwajalein Road
Julian St
Saipan St
Fifth St
Sixth St
Seventh St
Eighth St
Ninth St
Tenth St
Eleventh St
Twelfth St
Thirteenth St
Fourteenth St
Fifteenth St
Sixteenth St
O St
P St
Savo Ave
Bailey Rd
La Gonave Rd
Valle Vista Rd
La Piedra Rd
Ladera Rd
Toda Rd

1a 1b 2a 2b 3 3-4 4 4-5 5a 5b 5-6 6a 6b 6c 6-7 6d 6e 7a 7b 7c 7d 7e 8 8a 8b 8c 8d 8e 8f 8g 8h 8i 9 9a 9b 9c 9d 10 10a 10b

California Tiger Salamander Occurrences
- Adult
- Adult and Egg Mass
- Adult and Juvenile
- Juvenile
- Larval

California Tiger Salamander Suitability Level In Study Area: 10, 9, 8, 7, 6, 5, 4, 3, 2, 1

California Tiger Salamander Suitability Level Not In Study Area: 10, 9, 8, 6-7, 5-6, 4-5, 3-4

- California Tiger Salamander Study Area Boundary
- Approximate Area of Potential Interest
- Ammunition Magazine
- Prehistoric Site*
- Historic Site*
- MRP Site Boundary
- CERCLA IR Site
- Concord Boundary
- Building
- Street

* Prehistoric/Historic Site Note:
Sites are categorized by type of proposed fieldwork and their labels contain superscripts that correspond to the following fieldwork combinations:
[1]Surface Inspection
[2]Surface Inspection, Surface Collection and Shovel Test Pits
[3]Surface Inspection, Surface Collection, Shovel Test Pits and Backhoe Trench

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
81420-2010-I-0488

March 18, 2010

Mr. John Hill
Base Realingment and Closure
Program Management Office West
1455 Frazee Road Suite 900
San Diego, California 92108-4310

Subject: Threatened California Red-legged Frog, Threatened California Tiger Salamander, and the Proposed Archaeological Work at the Concord Naval Weapons Station, Concord, California

Dear Mr. Hill:

This letter is in response to your March 10, 2010, letter regarding the proposed archaeological investigations at the Concord Naval Weapons Station in Concord, Contra Costa County, California. You requested concurrence that the proposed project is not likely to adversely affect listed species. The U.S. Fish and Wildlife Service (Service) is concerned about the adverse effects of this project on the threatened California red-legged frog (*Rana draytonii*) and the threatened California tiger salamander (*Ambystoma californiense*). This letter is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*)(Act), and in accordance with the regulations governing interagency consultations (50 CFR § 402).

Our comments and recommendations are based on 1) the letter from the U.S. Navy to the Service dated March 10, 2010, that was received by this Field Office on March 15, 2010, concerning proposed archaeological studies; 2) *California Tiger Salamander Upland Habitat Study report Naval Weapons Station Seal Beach Detachment Concord, Contra Costa County, California* (Salamander Report) dated October 2008, that was prepared by the U.S. Navy; 3) *A Monitoring Effort to Detect the Presence of the Federally Listed California Tiger Salamander and California Red-legged Frog at the Naval Weapons Station, Concord* (Frog Report) dated 2007 that was prepared by M.L. Morrison and S.K. Smallwood; 4) *Draft Work Plan for Archaeological Evaluations and Eligibility Investigations in Support of the Environmental Impact Statement (EIS) for Naval Weapons Station, Seal Beach, Detachment Concord Contra Costa County, California* (Archaeological Report) dated January 2010, that was prepared by

TAKE PRIDE IN AMERICA

ASM Affiliates; 5) a visit to the Concord Naval Weapons Station by the U.S. Navy, City of Concord, Service, California Department of Fish and Game, and others on August 1, 2007; 6) a visit to the Concord Naval Weapons Station by the U.S. Navy, California Department of Fish and Game, U.S. Environmental Protection Agency, and others on September 17, 2009; and 7) other information available to the Service.

Section 9 of the Act prohibits the take of the California red-legged frog and the California tiger salamander by any person subject to the jurisdiction of the United States. As defined in the Act, take is defined as "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harass means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to breeding, feeding, or sheltering." "Harm has been further defined to include habitat destruction when it injures or kills a listed species by interfering with essential behavioral patterns, such as breeding, foraging, or resting. Thus, not only are the California red-legged frog and the California tiger salamander protected from such activities as collecting and hunting, but also from actions that result in its death or injury due to the damage or destruction of their habitat. The term "person" is defined as "...an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal government, of any State, municipality, or political subdivision of a State, or any other entity subject to the jurisdiction of the United States."

The Salamander Report that was prepared by the U.S. Navy provided documentation that the California tiger salamander inhabits Concord Naval Weapons Station. The Salamander Report and other information available to us indicate that there are one or more ponds within dispersal distance from several of the archaeological sites that provide suitable breeding habitat for this threatened animal. It is known to travel long distances between breeding ponds and its upland refugia. Generally it is difficult to establish the maximum distances traveled by any species, but individuals in Santa Barbara County have been recorded dispersing up to 1.3 miles from their breeding ponds (Sweet 1998). As a result of a 5-year capture and relocation study in the immediate vicinity of the Concord Naval Weapons Station, Orloff (2007) estimated that captured animals were traveling a minimum of 0.5 mile to the nearest breeding pond and that some individuals were likely traveling more than 1.3 miles to and from breeding ponds. Therefore, the Service has determined it is highly likely the California tiger salamander disperses through and inhabits at least several of the locations proposed for archaeological investigation, based on the biology and ecology of the species, the presence of on-site or nearby suitable habitat in the form of rodent burrows, and the information contained in the Salamander Report, the Archaeological Report, and other sources available to us.

The Frog Report that was prepared for the U.S. Navy provided documentation that the California red-legged frog inhabits Concord Naval Weapons Station. The Frog Report and other information available to us indicate that there are one or more ponds within dispersal distance from several of the archaeological sites that provide suitable breeding habitat for this threatened animal. Many of the ground squirrel (*Spermophilus beecheyi*) burrows at or in the vicinity of several or all of the proposed sites are suitable for the threatened ranid. Sheltering habitat for the

animal includes any landscape features that provide cover, such as existing animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. However, California red-legged frogs have been found in ephemeral creeks and drainages and in ponds that may or may not have riparian vegetation. Individuals can be found in disturbed areas such as channelized creeks and drainage ditches in urban and agricultural areas. An adult California red-legged frog recently was observed in a shallow isolated pool on North Slough Creek in the American Canyon area of Napa County (Christine Gaber/PG&E personal communication with Chris Nagano/Service on October 22, 2008). This location was surrounded by vineyard development. Another adult California red-legged frog was observed under debris in an unpaved parking lot in a heavily industrial area of Burlingame (Patrick Kobernus communication with Michelle Havens/Service on October 16, 2008). This individual likely was utilizing a nearby drainage ditch. The California Department of Transportation (2007) discovered California red-legged frog adults, tadpoles, and egg masses within a storm drainage system within a major cloverleaf intersection of Millbrae Avenue and State Route 101 in a heavily developed area of San Mateo County. This threatened animal has the potential to persist in disturbed or non-typical habitat areas as long as they provide at least one or more of their life history requirements. Some individuals remain at breeding ponds all year while others disperse. Dispersal distances are typically less than 0.5 mile, however some individuals have been known to move up to 2 miles (Fellers 2005). Movements are typically along riparian corridors, but some California red-legged frogs, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures (Fellers 2005). In one study, dispersing animals in northern Santa Cruz County were found to travel distances from 0.25 mile to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003). Therefore, the Service has determined it is highly likely the California red-legged frog disperses through and inhabits at least several of the locations proposed for archaeological investigation, based on the nearby documented records, potential breeding pond, the biology and ecology of the species, the presence of on-site suitable habitat in the form of rodent burrows, and the information contained in the Frog Report, the Archaeological Report, and other sources available to us.

The Service does not concur the proposed archaeological investigation is not likely to adversely affect the threatened California tiger salamander and the threatened California red-legged frog. Therefore, pursuant to 50 CFR § 402.14, we recommend that the U.S. Navy, a Federal agency, initiate formal consultation for the effects of the archaeological investigation on these two federally listed species. As required by 50 CFR § 402.14(c), the request for formal consultation should include (1) a description of the proposed action (if it has changed from that described in the Archaeological Report); (2) a description of the specific areas that may be affected by the proposed action; (3) a description of any listed species and/or critical habitat that may be affected by the proposed action; (4) a description of the manner in which the proposed action may affect any listed species and/or critical habitat, and an analysis of cumulative effects; (5) relevant reports or documents relating to the proposed project, other than the Archaeological Report; and (6) any other relevant information on the proposed action listed species and/or critical habitat. Finally, we recommend that your agency not implement the proposed archaeological investigation at Concord Naval Weapons Station until such time as the biological opinion has been issued to you by the Service.

We remain interested in assisting the U.S. Navy in the resolution of issues concerning endangered species at the Concord Naval Weapons Station. Please contact Chris Nagano at the letterhead address, telephone 916/414-6600, or electronic mail (Chris_Nagano@fws.gov) if you have any questions regarding this letter.

Sincerely,

Cay C. Goude
Assistant Field Supervisor
Endangered Species Program

cc:
Charles McKinney, Deborah Bardwick, SOI-SOL, Oakland, California
Dan Crum, FWS-LE, Sacramento, California
Scott Wilson, Liam Davis, Carolyn Rech, California Department of Fish and Game, Yountville, California
Phil Ramsey, U.S. Environmental Protection Agency, San Francisco, California
Jane Hicks, Regulatory Branch, U.S. Army Corps of Engineers, San Francisco, California
Brian Wines, State Water Resources Control Board, Oakland, California
Michael Wright, City of Concord, Concord, California

Literature Cited

Bulger, J. B., Scott, Jr., N. J., Seymore, R. B. 2003. Terrestrial activity and conservation of adult California red-legged frogs (*Rana aurora draytonii*) in coastal forests and grasslands. Biological Conservation 110: 85-95.

California Department of Transportation. 2007. Biological assessment for the restoration of the hydraulic capacity of the Cowan Storm Drain Canal within the U.S. Highway 101/Millbrae Avenue Interchange. EA 3A0400. December 2007. Oakland, California.

Fellers, G. M. 2005. California red-legged frog, *Rana draytonii* Baird and Girard. Pages 198-201 *in* Laurence L. C. Jones, William P. Leonard, and Deanna H. Olson (editors). Amphibians of the Pacific Northwest. xxii+227.

Orloff, S. 2007. Migratory movements of California tiger salamander in upland habitat — a five-year study Pittsburg, California. Ibis Environmental. San Rafael, California

Sweet, S. 1998. Letter to the U.S. Fish and Wildlife Service with a report titled "Vineyard development posing an imminent threat to *Ambystoma californiense* in Santa Barbara County, California." University of California, Santa Barbara, California.

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

REPLY TO
ATTENTION OF

JUN 12 2013

Regulatory Division

Subject: File Number 2010-00190S

Mr. Ryan Olah
United States Fish and Wildlife Service
Endangered Species Division
2800 Cottage Way, W-2605
Sacramento, California 95825

Dear Mr. Olah:

This letter serves to initiate formal Section 7 consultation pursuant to the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1531 *et seq.*) (33 C.F.R § 325.2(b)(5)) for federally listed California tiger salamander (*Ambystoma californiense*), California red-legged frog (Rana aurora draytonii), Alameda whipsnake (*Masticophis lateralis euryxanthus*), and San Joaquin kit fox (*Vulpes macrotis mutica*), and designated critical habitat for these species.

The U.S. Army Corps of Engineers (Corps) has received an application for a Department of the Army permit from the City of Concord for the re-development of the Concord Naval Weapons Station, located in the City of Concord, Contra Costa County, California. This application is being processed pursuant to Section 404 of the Clean Water Act of 1973 (33 U.S.C. Section 1344). Work would include a multi-phased development of open land, with the creation of new city infrastructure, such as wastewater treatment, schools, fire stations, businesses, homes, parks and roads. Impacts to Corps jurisdiction would include grading and filling of seasonal wetlands and other waters over a span of years. Please see the attached "Biological Assessment," dated May 10, 2013, for more information.

The proposed project has been reviewed for its impacts to federally listed species and their designated critical habitat. According to documents provided by H.T. Harvey and Associates, California tiger salamander, California red-legged frog, Alameda whipsnake, and San Joaquin kit fox, or their habitat, have the potential to be present in the project vicinity. The applicant has proposed avoidance and minimization measures outlined in the enclosed documents on page 28. The Corps has determined that the proposed project is likely to adversely affect California tiger salamander, California red-legged frog, and Alameda whipsnake, and will have no effect on San Joaquin kit fox, and request formal consultation on the above outlined species.

With this letter the Corps is initiating formal consultation in accordance with 50 C.F.R. 402.14(e) and 50 C.F.R. 600.905(b), and requests that formal consultation concludes within 90

calendar days of this letter. The ESA regulations further require that the biological opinion be delivered to the Corps within 45 days after the conclusion of formal consultation.

You may refer any questions on this matter to Ian Liffmann of my Regulatory staff by telephone at (415) 503-6769 or by e-mail at ian.liffmann@usace.army.mil. All correspondence should be addressed to the Regulatory Division, South Branch, referencing the file number at the head of this letter.

Sincerely,

Jane M. Hicks
Chief, Regulatory Division

Enclosures

Copies Furnished (w/o encl):

City of Concord; Attn: Michael W. Wright
H.T. Harvey & Associates

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE ROAD, SUITE.900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW/0343
June 21, 2013

Mr. Dan Cordova
U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825-1846

Dear Mr. Cordova:

In connection with the Base Realignment and Closure (BRAC) process, the U.S. Department of the Navy has initiated the environmental planning effort required for a PROPOSED TRANSFER OF APPROXIMATELY 5,038 ACRES OF SURPLUS FEDERAL PROPERTY located within the Inland Portion of the former Naval Weapons Station Seal Beach Detachment Concord (NWS Concord), Concord, Contra Costa County, California. To support this planning effort with an efficient and effective approach to compliance with Endangered Species Act (ESA) Section 7 consultation requirements, the Navy requests a meeting to conduct early planning and coordination with appropriate USFWS personnel.

This letter serves to preliminarily identify the proposed action area, describe the Navy's proposed action, and identify the known federally-listed species within the project area. Additionally, this letter describes the differing roles and responsibilities for property disposal and redevelopment, addresses an anticipated U.S. Army Corps of Engineers (ACOE) Section 7 consultation concerning a Section 404 permit for redevelopment activities, and proposes a path forward for Section 7 consultation regarding the BRAC disposal action.

Navy's Proposed Action Area

The Department of the Navy (Navy) is preparing a National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) to evaluate the potential environmental consequences of the disposal and reuse of surplus property at the former NWS Concord. In accordance with NEPA, the Navy must analyze the environmental effects of the disposal of the NWS Concord property.

The project area examined within the NEPA EIS encompasses approximately 5,038 acres of surplus federal property located within the Inland Portion of the former NWS Concord. The project area is located within the City of Concord (see Figure 1) in the northeastern portion of the San Francisco Bay Area, approximately 28 miles northeast of the City of San Francisco. At this time, the Navy considers the 5,038 acres within the Inland Area to be the Section 7 Action Area.

Description of the Navy's Proposed Action

In 2005, a portion of the former NWS Concord was designated for closure under the authority of Public Law 101-510, the Defense Base Closure and Realignment Act (DBCRA) of 1990, as amended. At the time of its closure, NWS Concord was comprised of two major land holdings – (1) the Tidal Area along Suisun Bay and (2) the Inland Area. The Tidal Area along with 115 acres of the Inland Area were transferred to the U.S. Army and is now the Military Ocean Terminal Concord (6,419 acres in total). Approximately 59 acres of the Inland Area, which supported military housing, was transferred to the U.S. Coast Guard. The remaining 5,038 acres of the Inland Area was declared surplus to the federal government on May 6, 2007 (72 FR 9935) and may be transferred to non-federal ownership for redevelopment. This proposed transfer to non-federal entities is the Navy's Proposed Action and the focus of its NEPA EIS. Figure 1 identifies the location of the proposed action (i.e., surplus property).

Per 10 USC 2687, at note Section 2905(c), the provisions of NEPA apply to the Navy's property disposal action. For the purposes of carrying out the NEPA assessment, the redevelopment plan submitted by the Local Redevelopment Authority, the City of Concord, is treated as part of the proposed Federal action (10 USC 2687, at note Section 2905(b)). Although the Navy's EIS will analyze the proposed community reuse, the City of Concord is responsible for the local reuse planning process, and the Navy has no role or responsibility in that planning process, or in the implementation of the community's reuse plan.

For purposes of NEPA, the proposed action is defined as the disposal of surplus NWS Concord property from federal ownership and its subsequent reuse by a future owner or developer in a manner consistent with the Concord Reuse Project Area Plan ("Area Plan"), as adopted by the City of Concord on January 24, 2012. The disposal of surplus property is the responsibility of the Navy, and the City of Concord is responsible for the implementation of the Area Plan. After the property has been conveyed to non-Federal entities, the property will be subject to local land use regulations, including zoning, land use plans, and building codes. As a result, the local community exercises substantial control over future use of the property. The developer or future property owner, under the direction of the City of Concord, and federal, state, and local agencies with regulatory authority over protected resources, will be responsible for adopting practicable means to avoid or minimize environmental harm that may result from implementing the community developed Area Plan.

City of Concord's Reuse Project Area Plan

Following disposal of surplus federal property by the Navy to non-Federal entities, the property would be developed by a future owner or developer in a manner consistent with the Area Plan. Under the Area Plan, approximately 69% of the property would be maintained as conservation, parks, or recreational land uses, and the remaining 31% of the property would be redeveloped as a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses. The redeveloped area would involve up to a

maximum of 12,272 housing units and 6,100,000 square feet of commercial space over a total development footprint of approximately 1,545 acres. The remaining portion of the property would be utilized for conservation, parks, or recreational land uses, including a 2,537 acre regional park, which would encompass the east side of the property along the ridgeline of the Los Medanos Hills. The western side of the property would be developed as a series of mixed-use development districts, with higher development densities at the north end of the property, near State Route 4 and the North Concord/Martinez Bay Area Rapid Transit (BART) station, and lower density residential villages as you move south towards Bailey Road. The development districts would be serviced by local and connector streets and two new through-streets, Los Medanos Boulevard running north/south from the BART station and Delta Road running east/west paralleling Highway 4. In addition, the transportation network will include a high-capacity bus transit service that will connect the development to BART, downtown Concord, and the surrounding neighborhoods. Figure 2 identifies the proposed land use plan.

For more information on the community's reuse plan for the former NWS Concord property, including copies of the Area Plan, CEQA environmental analysis, and other planning documents please see the City of Concord's reuse project Website at http://www.concordreuseproject.org/.

Proposed City of Concord Master Permitting Process and Clean Water Act Section 404 Permit

The Navy recognizes and supports the City of Concord's approach to establish a Master Natural Resources Permitting Framework to manage potential natural resource impacts and permitting through a comprehensive, site-wide, master permitting process – as opposed to having future individual development projects address these issues separately on a project-by-project basis. In addition, we understand that the City has met with USFWS and other stakeholders to discuss this master permitting process in the past and we understand that past coordination has been productive.

As part of developing the master permitting process, the City has applied to the ACOE for an Individual Clean Water Act Section 404 permit to authorize the fill of wetlands and other waters of the United States that would occur through implementation of the City of Concord's Area Plan. As a result of the Section 404 permit and as part of the larger City of Concord Master Natural Resources Permitting Framework, the City of Concord will:

- Incur permit condition obligations, which can be transferred to future individual developers within the permit area.

- Prepare a Compensatory Mitigation Plan and be responsible for mitigation required by ACOE.

- Create, enhance, and preserve aquatic features, and recoup appropriate expenses through entitlements for future development within the reuse area and associated development agreements.

- Develop, with ACOE, a mutually agreeable approach to long-term responsibility and funding for the mitigation (3rd party management with easement and endowment is ACOE's preferred approach).

- Establish a permit term of 10 years with expectation that wetland fill and mitigation within permit term.

As part of the Section 404 permitting process, the ACOE intends to engage in formal Section 7 consultation with USFWS. Such consultation will address the effects of authorizing such fill, as well as the effects of all interrelated and interdependent activities (i.e., implementation of the Area Plan), on threatened and endangered species and any designated critical habitat. The Navy understands that the ACOE has, or will in the near future, be submitting a Biological Assessment (BA) to initiate formal Section 7 consultation. Their consultation encompasses the entire site (i.e., approximately 5,038 acres of surplus federal property located within the Inland Portion of the former NWS Concord) and will address both the Area Plan development, and creation, enhancement and preservation of the endangered species habitat.

The ACOE is a NEPA Cooperating Agency in the Navy's EIS, because we understand that ACOE intends to "tier" off of the Navy's EIS to prepare an ACOE NEPA analysis that specifically supports a future Clean Water Act Section 404 permit. The Navy's EIS does not include the City of Concord's Master Natural Resources Permitting Framework or the specific actions required to support the ACOE's Section 404 permitting process as part of the Navy's proposed action. As mentioned, the Navy has no role in the redevelopment of the property, the City of Concord's Master Permitting Framework, or the City of Concord and ACOE Section 404 permitting process.

Federally Listed Species and Critical Habitat in the Vicinity of the Action Area

The following federally-listed species are known to occur within the Action Area:

- California tiger salamander (*Ambystoma californiense*), federally-listed as threatened.

- California red-legged frog (*Rana draytonii*), federally-listed as threatened.

5090
Ser BPMOW/0343
June 21, 2013

Additionally, the Inland Area may contain suitable habitat for the Alameda Whipsnake (*Masticophis lateralis euryxanthus*), a federally-listed species. No other federally-listed threatened or endangered, proposed, and candidate species and no proposed or designated critical habitat are known to exist within the Project Area.

Proposed Navy/USFWS Early Coordination Meeting

As an administrative action, the disposal of surplus property would have no effect on federally-listed species, nor would it destroy/adversely modify designated critical habitat. However, as an interrelated action, the subsequent redevelopment of the property by a future developer or owner "may affect, and is likely to adversely affect" listed species.

In order to ensure that the Navy addresses its ESA Section 7 requirements in an effective and efficient manner, the Navy requests a meeting to conduct early planning and coordination with the appropriate USFWS personnel. The purpose of the meeting would be to:

1.) Discuss and decide on an appropriate consultation approach to ensure Navy compliance with Section 7.

2.) Discuss how to most effectively recognize and maximize the use of the ongoing City of Concord/ACOE Master Permitting Process and Section 7 consultation relative to the Navy's compliance with Section 7.

We will follow up with you soon to schedule the requested meeting and identify appropriate participants. Should you have questions or concerns, please contact Mr. Ronald Bochenek, at (619) 532-0906 or via email at ronald.bochenek.ctr@navy.mil.

Thank you in advance for your assistance.

Sincerely,

KIMBERLY A. OSTROWSKI
Base Closure Manager
By direction of the Director

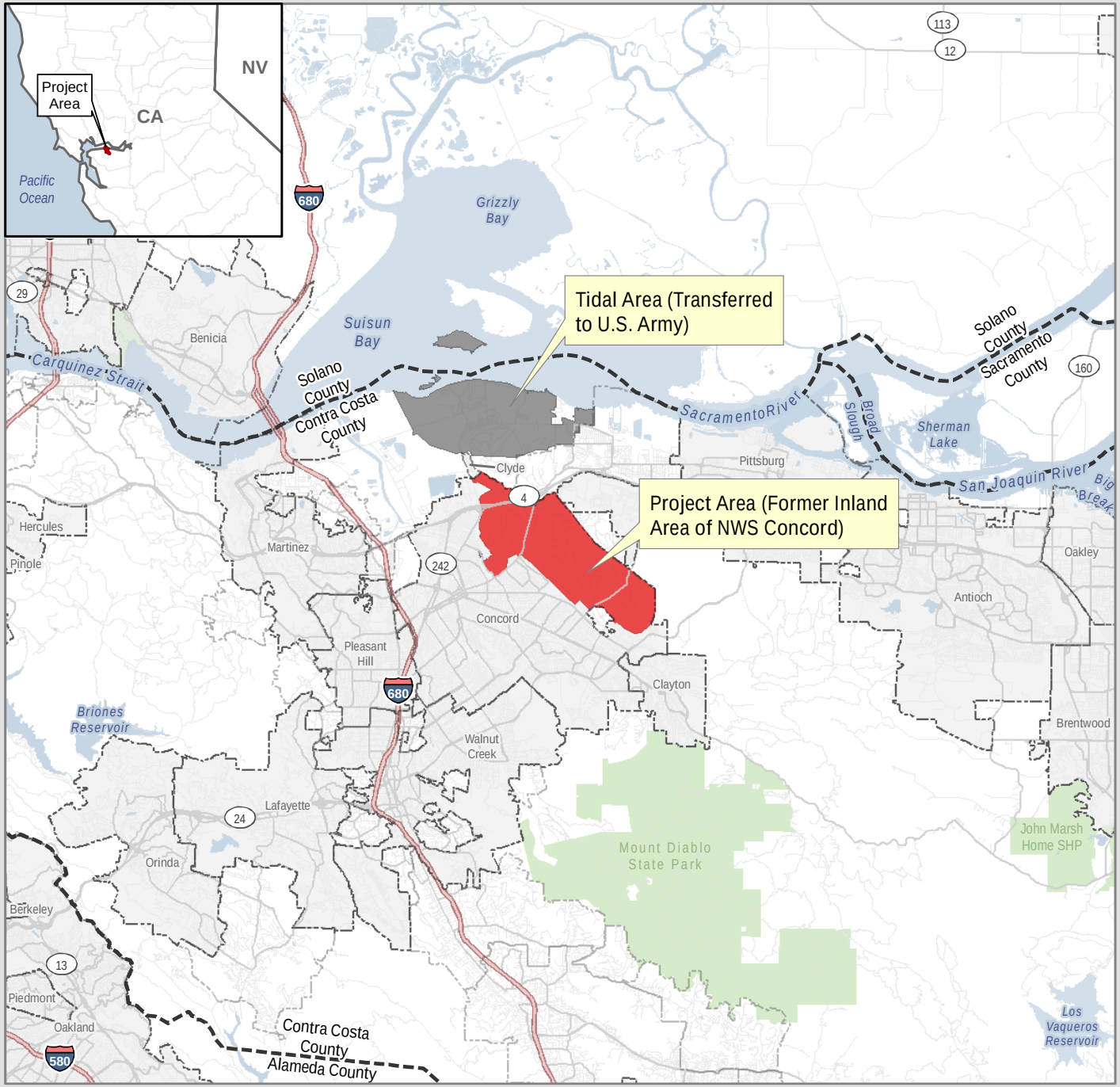


Figure 1
Project Area

Legend

- County Boundary
- City Boundary
- State Park
- Waterbody

Scale:
0 2.5 5 Miles

N

Source: ESRI 2010; NAIP 2012.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Meeting_Maps\Feb19_2013\Project Area.mxd

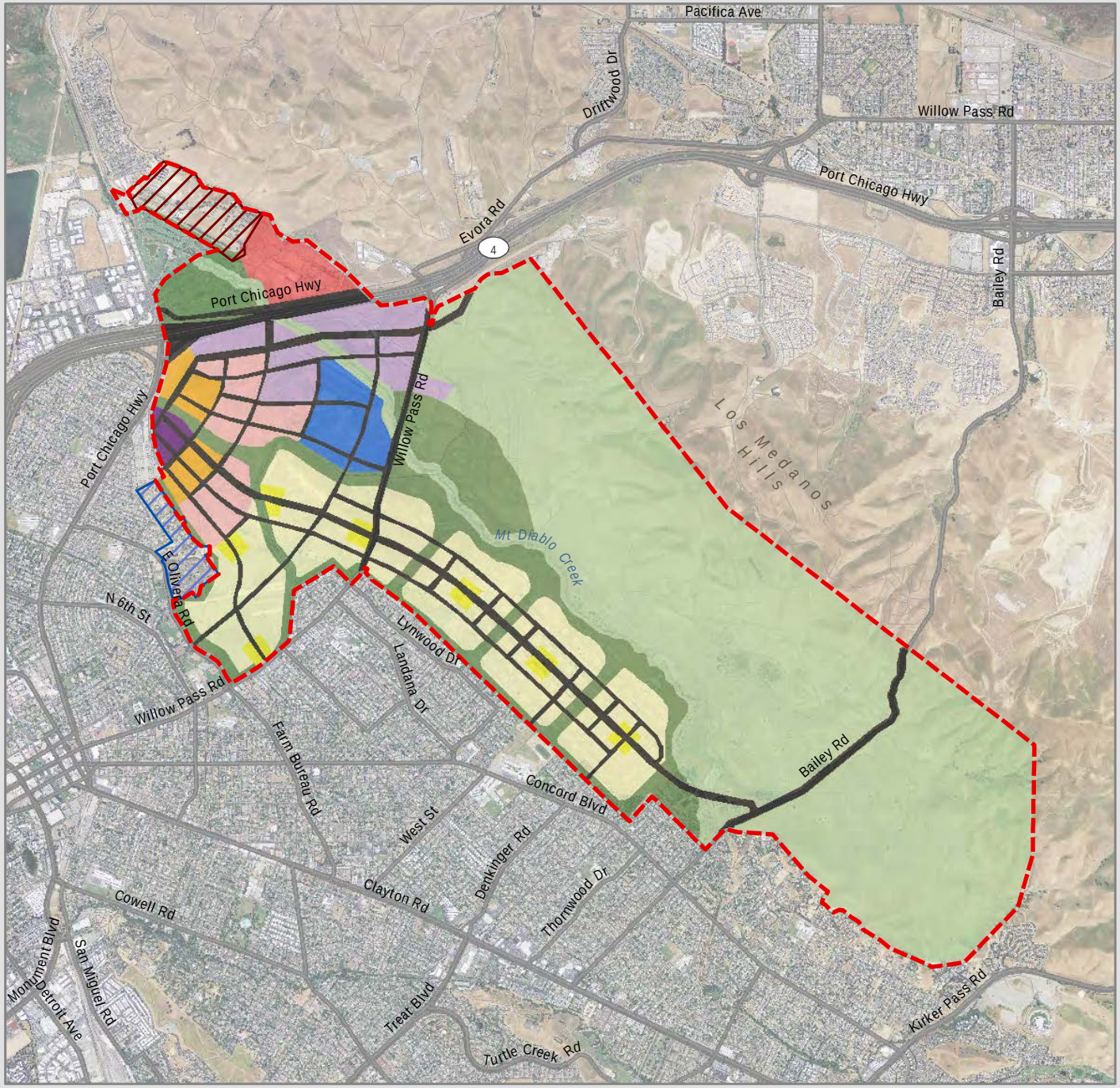


Figure 2
Alternative 1: Concord Reuse Project Area Plan

Legend

- Inland Area

Land Use

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways and Citywide Parks
- North Concord TOD Core
- North Concord TOD Neighborhood
- Road
- Village Center
- Village Neighborhood
- Transfer to U.S. Army
- Transfer to U.S. Coast Guard

Scale:
0 2,000 4,000 Feet

N

Source: ESRI 2010; NAIP 2012.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Meeting_Maps\Feb19_2013\Alternative1_Area_Plan.mxd

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.els/0499
OCT 2 2013

Mr. Dan Cordova
U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825-1846

Dear Mr. Cordova:

The Department of the Navy (Navy) seeks to initiate formal Endangered Species Act (ESA) Section 7 consultation for the transfer of approximately 5,038 acres of surplus federal property located within the Inland Portion of the former Naval Weapons Station Seal Beach Detachment Concord (NWS Concord), Concord, Contra Costa County, California. As discussed below, the Navy is seeking to join the ongoing U.S. Army Corps of Engineers (ACOE) Section 7 consultation supporting ACOE issuance of a Clean Water Act, Section 404 permit to the City of Concord for future redevelopment of surplus Federal property at NWS Concord. The ACOE initiated formal consultation with the submittal of a Biological Assessment (BA 2010-001-90S) on July 12, 2013.

The purpose of this letter is to summarize coordination thus far, describe the Navy's proposed action, and request a separate determination section in the joint Biological Opinion (BO) proposed for issuance to both the Navy and the ACOE.

Consultation History

- June 21, 2013- Navy submits letter to the U.S. Fish and Wildlife Service (USFWS) requesting early coordination on Section 7 approach for disposal of surplus property at NWS Concord
- July 16, 2013- Navy meets with USFWS in Sacramento for early coordination and USFWS recommends joint consultation between the Navy and ACOE
- September 10, 2013- USFWS, ACOE, Navy, and City of Concord meet to discuss Section 7 consultation for the transfer and reuse. All parties agree to pursue a joint consultation. The joint BO will have clearly-defined roles and responsibilities for the Navy and ACOE.

Navy's Proposed Action Area

In 2005, a portion of the former NWS Concord was designated for closure under the authority of Public Law 101-510, the Defense Base Closure and Realignment Act of 1990, as amended. At the time of its closure, NWS Concord was comprised of two major land holdings - (1) the Tidal Area along Suisun Bay, and (2) the Inland Area. The Tidal Area along with 115 acres of the Inland Area were transferred to the U.S. Army and is now the Military Ocean Terminal Concord (6,419 acres in total). Approximately 59 acres of the Inland Area, which supported military housing, was transferred to the U.S. Coast Guard. The remaining 5,038 acres of the Inland Area was declared surplus to the federal government on May 6, 2007 (72 FR 9935) and is proposed for transfer out of Federal ownership for redevelopment. The Navy's proposed action is the administrative task of transferring the surplus property. The BA submitted to USFWS on July 12, 2013 by the ACOE analyzes the redevelopment as described in the City of Concord's Area Plan which was adopted by the City of Concord on January 24, 2012. The disposal of surplus property is the responsibility of the Navy, and the City of Concord is responsible for the implementation of the Area Plan. After the property has been conveyed to non-Federal entities, the property will be subject to local land use regulations, including zoning, land use plans, building codes, and other permit requirements which is no longer the responsibility of the Navy.

The Navy recognizes that the Navy's proposed property transfer, the ACOE's issuance of a 404 master permit to the City of Concord and the City of Concord's subsequent redevelopment are interrelated and interdependent. However, as an administrative action, the Navy's disposal of surplus property will have no effect on federally-listed species. The developer or future property owner will be responsible for adopting practicable means to avoid or minimize take of federally listed species that may result from implementing the Area Plan. Therefore, as proposed by the USFWS during the September 10, 2013 meeting, the Navy requests a separate section in the joint BO distinguishing the Navy's responsibilities and requirements from those of the ACOE post transfer. We look forward to

continued consultation on this project and request a review of the draft BO prior to issuance.

Should you have questions or require additional information, the Navy's point of contact is Ms. Nicole Olmsted, Natural Resources Specialist, (Naval Facilities Engineering Command, Southwest). Ms. Olmsted can be contacted at 619-532-3618 or by email at nicole.olmsted@navy.mil.

Sincerely,

Alan K. Lee

ALAN K. LEE
Base Closure Manager
By direction of the Director

CITY OF CONCORD
1950 Parkside Drive, MS/01
Concord, California 94519-2578
FAX: (925) 798-0636

OFFICE OF THE MAYOR
Telephone: (925) 671-3158

CITY COUNCIL
Timothy S. Grayson, Mayor
Ronald E. Leone, Vice Mayor
Edi E. Birsan
Daniel C. Helix
Laura M. Hoffmeister

Thomas J. Wentling, City Treasurer

Valerie J. Barone, City Manager

May 29, 2014

Senator Dianne Feinstein
One Post Street, Suite 2450
San Francisco, CA 94104

Senator Barbara Boxer
70 Washington Street, Suite 203
Oakland, CA 94607

Congressman George Miller
1333 Willow Pass Road, Ste. 203
Concord, CA 94520

Dear Senator Feinstein, Senator Boxer, and Congressman Miller:

The Local Reuse Authority (LRA) for the City of Concord has been notified, through conversations and meetings with U.S. Fish and Wildlife Service (Service) staff and management, and U.S. Army Corps of Engineers (Corps) staff and management, that both agencies are experiencing significant staff and funding shortages and expect substantial delays in endangered species and clean water act (wetlands) permitting. The staffing shortages are expected to persist, and the delays (which we have already been experiencing) are expected to get worse. The attached memo issued by Mike Fris, the Assistant Regional Director for the Service's Pacific Southwest Region (Regional Memo), further memorializes the Service's staffing and budget issues, and anticipated delays in Section 7 consultations under the Endangered Species Act (ESA).

We have been told, and the attached Regional Memo explicitly acknowledges, that certain types of projects – such as flood protection/water supply and high-profile renewable energy (specifically mentioned projects like Central Valley Flood Protection Program, Bay-Delta Conservation Plan, Desert Renewable Energy Plan) would still have funding and staff support, but staff support for day-to-day Section 7 consultations (associated with former military base transfer and reuse) has been, and will be, further curtailed.

Consultations in connection with Congressionally-mandated base closures and transfers under the Base Realignment and Closure Act (BRAC) is not addressed in the Regional Memo or identified as a priority. However, projects with national security implications, the nation's 22 "Landscape Conservation Cooperatives", and projects currently in the pipeline that have the

potential to provide a substantial conservation benefit, will also be a priority. As you know, the timely transfer and reuse of the Inland Portion of the Concord Naval Weapons Station requires the Department of Navy (Navy) and Corps to consult with the Service under Section 7 of the Endangered Species Act and the issuance of a Biological Opinion by the Service to both of these agencies. Concluding the Congressionally-mandated transfer of the base to the City of Concord certainly has national security, and health and safety, implications. Moreover, the City's adopted Area Plan for the base has the potential to provide substantial benefits for federal-listed species through the preservation, enhancement and long-term management of more than half of the site. For these reasons, and the far-reaching economic consequences of the base closure and transfer for both the City and Navy, the Section 7 consultation for the Concord Naval Weapons Station should be a priority for the Service, but thus far has not been.

The Concord Naval Weapons Station provides a unique opportunity to coordinate endangered species planning, flood protection, and wetland restoration with economically viable infill development that will serve the greater Bay Area. However, effectively accomplishing these goals requires the active support and participation of the Sacramento Field Office of U.S. Fish and Wildlife Service and the San Francisco District of the U.S. Army Corps of Engineers. We request your support in seeking commitments from the agencies giving Concord and other communities with closed military bases the priority and focus they deserve.

Sincerely

Timothy S. Grayson
Mayor

Enclosure: Memorandum – USFWS Assistant Regional Director, Ecological Services

cc: Concord City Council Members
Valerie Barone, Concord City Manager
Michael Wright, Executive Director - Concord LRA
Patrick O'Brien, Director - Office of Economic Adjustment
Laura Duchnak, Director - Navy BRAC
Bob Doyle, General Manager - East Bay Regional Park District

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Southwest Region
2800 Cottage Way, Suite W-2606
Sacramento, California 95825

In Response Reply To:
FWS/R8/AES

Memorandum

To: Regional Director, Pacific Southwest Region
Sacramento, California

From: Assistant Regional Director, Ecological Services

Subject: Ecological Services Workload Prioritization */s/ Michael Fris*

Consecutive years of reduced funding for the Ecological Services Program have had a meaningful impact in Region 8. Workload associated with sections 4, 7, and 10 of the Endangered Species Act (ESA) is greater than our resources can address. To compound this problem, we anticipate the demand for ESA permitting, listing, and recovery work will increase in the coming years as the housing market improves, natural resource needs increase, and listing petitions rise. We expect this increase in workload to occur while renewable energy permitting remains a high priority for the Administration and Department of Interior. Given decreased staff resources and budgets, it behooves us to craft a strategy for prioritizing workload. Ultimately, we need a long-term strategy which may entail shifting resources throughout our region to ensure that staffing is commensurate with our priority assignments. As we formulate this long-term strategy, this memorandum will guide deployment of our resources in the short term.

Regionally, our top priorities include Department of Interior initiatives, preservation of health and human safety, and workload required to meet our legal mandates. Our highest priorities also include continued implementation of Landscape Conservation Cooperatives and the surrogate species concept. Specific priorities encompass Tribal trust responsibilities, Klamath water operations projects (including the hydroelectric settlement agreement), the Desert Renewable Energy Conservation Plan, the Bay-Delta Conservation Plan, the Central Valley Project Operations and Criteria Plan, issues of national security, projects related to flood prevention, projects related to fire risk reduction, and communicating with the public through external affairs. While these priorities comprise our regional focus, they do not provide the fine-scale sideboards to determine how offices should prioritize projects, and they do not all apply to each office within Region 8. Thus, each office will need to prioritize its own workload within their specific geographic priorities, and using surrogate species as the measure of success.

Among the remaining workload, we will focus on projects with a high conservation benefit. Whenever possible, we will place the highest priority on projects where big conservation gains can be achieved with relatively little effort through the solid work of our partners. When conservation value and programmatic priority are equal, projects will enter a queue to be addressed on a first-come, first-served basis. Streamlined, programmatic approaches (landscape scale) will be prioritized ahead of individual projects.

Action agencies and applicants can reduce permit processing timeframes by producing well-prepared biological assessments and habitat conservation plans. For priority projects we cannot accomplish due to budget shortfalls, reimbursable dollars may enable us to hire temporary or term employees to work on the project from start to finish. Reimbursable dollars should only be accepted when a project would otherwise be a priority, but would go unfunded due to budget shortfalls.

Based on limited staff resources, we anticipate that we will not be able to meet regulatory timeframes with some degree of frequency. This includes ESA section 7 timeframes for issuing biological opinions (135 days) and timeframes for issuing ESA section 4 findings (e.g., 90-day findings and 12-month findings). Finally, there are a number of items we simply won't be able to do. These items are discussed below, by Ecological Services Program.

Section 7 and Section 10

Our primary focus will continue to be Departmental and agency priorities, as well as projects where we foresee having the biggest conservation benefit. Departmental and agency priority projects include the DRECP, high-profile renewable energy projects, Klamath, BDCP, and OCAP as well as projects necessary for health and human safety or national security and those for which we have court-ordered or settlement obligations. Among section 10 projects, we will prioritize those regional HCP development efforts for which we think the applicants are committed to expeditiously completing the plan and which are most promising in terms of positive conservation outcomes. Our section 7 priorities will focus on those projects that are designed with species conservation in mind and projects where we can achieve the greatest conservation outcome for the resources expended in working on the project. We will pursue programmatic consultations if there are expected long-term conservation and workload benefits.

To focus our efforts and attention on priorities, we foresee rarely or not doing Safe Harbor Agreements, general technical assistance, and CCAAs and CCAs. We will step away from the lead role on most intra-Service consultations for non-Ecological Services programs. Those programs have been delegated the authority to complete their own section 7 consultations; we are committed to providing those programs with the tools they need to support their own determinations.

As the economic recovery continues, we anticipate that HCP and consultation workload associated with urban development will increase. We must be prepared to prioritize projects. We will not be able to complete all projects in a timely manner. Sometimes our partners have assisted with funding, which helps us complete these requests in a more timely manner (streamlined MOU with FS, agreements with Caltrans and the Corps). To enable Federal land management agencies to reduce the risk of catastrophic wildfire, we will continue to engage these partners on fire-related consultations. We have recently reaffirmed our commitment to the Streamlined Consultation process in the Northwest Forest Plan area, and will continue to seek consensus and efficiencies in these consultations.

Listing and Recovery

Our primary (and perhaps only) focus will be on meeting court-ordered and settlement deadlines for findings, including findings for reclassifications. We will also put resources toward completing litigation-driven recovery plans, and for other recovery plans we will continue to implement our work activity guidance for FY13-FY17, ensuring that the pace of plan development is commensurate with staffing levels. Recovery implementation will be focused on critically imperiled species and will be primarily in the form of Service staff working with partners to identify and fund recovery actions.

With few exceptions, we do not plan to carry out the following activities: uplisting rules, downlisting rules, post-delisting monitoring plans, petition responses, CNORs, non-MDL findings and proposed rules , or recovery plan revisions. Five-year reviews will not be done, although abbreviated reviews may be completed if sufficient resources are available.

Contaminants

Our main priority will be maintaining spill response planning and preparedness capabilities with our field offices as well as our Federal and State partners. Another priority will be to ensure new case development and support in our Natural Resource Damage Assessment & Restoration (NRDAR) program. For restoration activities of our on-going existing NRDAR cases, implementation and support will continue as these funds are non-appropriated and derived from settlements.

With the exception of our current On-Refuge Investigation program activities, all contaminant investigation activities are no longer being implemented (unless funding/support is provided to us from our partners or stakeholders). In addition, technical assistance provided on contaminant issues to other Service Programs (i.e., Consultation, Recovery, Listing, Refuges, Fisheries, etc.) will be significantly reduced. Some technical assistance may be provided on a case-by-case basis for high-priority issues, and in such cases cost-sharing with the requesting program will be sought. . Specific Service issues that will be affected include:

- Clean Water Act regulatory reviews (water quality standards, TMDLs, etc.)
- Listing support reviews (five-factor analyses, 90-day reviews, delisting, etc.)
- Mining-related NEPA reviews
- Pre-acquisition Environmental Site Assessments (Level II and Level III)
- Recovery support reviews (recovery plans, 5-year reviews, etc.)
- Refuge Pesticide Use Proposal reviews
- Refuge Cleanup reviews (EECAs, PASIs, etc.)

Conservation Planning Assistance

We will continue to focus our efforts on Departmental and agency priorities, including the Secretarial Determination for the Klamath settlement agreement, and water operations associated with the Klamath hydroelectric facilities and the Central Valley Project Improvement Act. Our

field offices have been and will continue to rely on reimbursable funding from our Federal partners for work on Fish and Wildlife Coordination Act reports. It is imperative that these funds be sufficient to fully support staff, and we will prioritize projects based on the amount of funds, Departmental and agency priorities, and conservation benefit. We will continue work on FERC reviews insofar as the available funding allows, which will likely entail stepping away from involvement with some FERC projects (except Klamath).

We will not or rarely be reviewing and commenting on other agencies NEPA documents, unless we have agreed to be a Cooperating or Participating agency. Our involvement with Bald and Golden Eagle Act permitting will be minimal, and will largely depend on the priority given to individual projects.

cc:
R8 All ES Project Leaders

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2013-TA-0514

DEC 18 2014

Ms. Jane Hicks
Chief, Regulatory Division
Attn: Lisa Mangione
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

Alan K. Lee
Base Closure Manager
Department of the Navy
Base Realignment Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

Subject: Information Request for the Proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station, Contra Costa County, California

Dear Ms. Hicks and Mr. Lee:

This letter is in response to the U.S. Army Corps of Engineers (Corps) June 12, 2013, letter and the Department of the Navy's (Navy) October 2, 2013, letter requesting formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed transfer and redevelopment of the former Concord Naval Weapons Station (CNWS) located in the City of Concord, Contra Costa County, California. The Corps letter was received by this field office on June 14, 2013 and the Navy's letter was received on October 18, 2013. At issue are effects to the federally threatened California red-legged frog (*Rana draytonii*), threatened Central California Distinct Population Segment (DPS) of the California tiger salamander (*Ambystoma californiense*), endangered San Joaquin kit fox (*Vulpes macrotis mutica*), threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*), and threatened vernal pool fairy shrimp (*Branchinecta lynchi*). Our comments are provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

This document was prepared based on: (1) information provided in the Corps June 12, 2013, and the Navy's October 2, 2013, letters; (2) the *Biological Assessment for the Concord Reuse Project- Area Plan, Concord, California* (BA), dated May 10, 2013 (BA); (3) a site visit on November 13, 2014; and (4) other information available to the Service.

Based on discussions between the Service, the Navy, the Corps, and the City, it is the Service's intention to issue one biological opinion that will include both the proposed transfer and redevelopment of CNWS. The Navy's October 2, 2013, letter stated that the Navy's proposed action is the administrative task of transferring the surplus property and requested that the biological opinion clearly distinguish the Navy's responsibilities and requirements associated with the property transfer from those of the Corps following the transfer. The Corps June 12, 2013, letter requested formal consultation for the effects to listed species resulting from the City of Concord's proposed re-development of the property following transfer.

The Corps' and the Navy's letters and the supporting BA submitted to the Service by the Corps do not contain a level of detail sufficient to prepare a biological opinion for the transfer and redevelopment of CNWS and do not contain all of the information necessary to initiate formal consultation as outlined in the regulations governing interagency consultations (50 CFR § 402.14).

In order to fully evaluate the potential effects to listed species resulting from the proposed transfer and redevelopment of CNWS, the Service has the following comments and information requests.

Additional information requests and comments regarding property transfer:

1. The Navy's letter was not accompanied by supporting information describing the proposed mechanism, timing, or number of property transfers and did not identify the entities to whom the surplus property will be transferred. It is the Service's understanding that the proposed project will include multiple transfers of land to more than one entity. Please provide information regarding the anticipated timing of property transfers including any proposed phasing, the parties to whom properties will be transferred, and the mechanism for each property transfer.

2. It is the Service's understanding that remediation activities beyond those described in the Biological Opinion for the Environmental Investigations on the Former Naval Weapons Station Seal Beach Detachment, Concord (Service file number: 81420-2011-F-0313) issued to the Navy by Service on August 31, 2012, will be necessary prior to transferring some portions of the surplus property. Please provide information about any remediation that must be addressed prior to property transfers. This should include a proposed schedule, the location of remediation areas, the party or parties that will be responsible for conducting remediation activities, and clarification of whether any remediation activities are proposed for inclusion in the biological opinion for the transfer and redevelopment of CNWS. If remediation activities are proposed for inclusion in this consultation, please provide information about the activities to be conducted. If remediation activities are not proposed for inclusion in this consultation, please clarify how authorization for take of listed species resulting from these activities will be obtained.

3. The BA states that an approximately 2,626-acre area, referred to as the Conservation Area, will be permanently protected and managed for the conservation of biological resources including listed species. However, the means by which the Conservation Area will be protected in perpetuity is not specified. Please provide a description of the proposed mechanism for the protection the Conservation Area. In order for the Service to consider habitat within the Conservation Area as compensation for impacts to listed species, the Conservation Area should be placed into a Service-approved conservation easement to be held by an entity or

organization approved by the Service. The conservation easement should be recorded prior to or in conjunction with the transfer of the property.

Additional information requests and comments regarding effects to listed species:

Because proposed redevelopment will take place over several decades, information provided in the BA is based on program-level planning. The lack of specific project designs makes it difficult for the Service to analyze effects of the proposed project on listed species. Although design measures described in the Conservation Measures section of the BA articulate general guidelines that the City will impose on project proponents, this level of detail is insufficient for the Service to analyze effects of development on listed species. In particular, additional details describing project components proposed within or adjacent to the Mt. Diablo Creek corridor, within the Conservation Area, and to the east of Mt. Diablo creek are needed. Specific information needs are listed below.

1. The BA states that restoration will take place within the Mt. Diablo Creek corridor and that the number of stream crossings will be reduced by the proposed project, but does not provide additional detail. Please provide information regarding proposed development, enhancement/restoration, and management of Mt Diablo creek including:

    - The number, locations, and designs of existing creek crossings and/or culverts in Mt. Diablo Creek.
    - The number, locations, and designs of proposed creek crossings of Mt. Diablo Creek included in the proposed project.
    - Proposed plans/designs for stream restoration and habitat enhancement and the schedule for implementing creek restoration and enhancement.
    - Clarification of the location and configuration of the 300-foot stream setback (e.g. is the setback 300 feet on either side of the creek, will setback widths be variable depending on location, etc.) and any trails, fences, or other facilities proposed within the stream setback.
    - Proposed management practices in the riparian corridor and the parties responsible for creek management.

2. The Service is concerned that the proposed project will result in adverse effects to habitat for listed species provided by Mt. Diablo Creek, in particular in areas where development is proposed both to the east and west of the creek. The Service recommends eliminating or reducing proposed development to the east of Mt. Diablo Creek so that the creek abuts undeveloped upland habitat to the east. In areas where both sides of the creek will be developed, creek habitat will be isolated from upland habitat outside the creek setback reducing the quality of habitat provided by the creek.

3. The BA states that Mt. Diablo Creek receives runoff from over 75 percent of the action area. Please provide an assessment of the anticipated effects of urban runoff from proposed development on water quality and hydrology of the creek.

4. Additional information is needed regarding the amount, location, and type of proposed lighting. Although the BA includes a design measure that describes some limitations on the location and type of lighting that will be allowed, the level of detail is not sufficient to allow

the Service to analyze potential effects to listed species. In particular, additional information about lighting proposed within or adjacent to the Mt. Diablo Creek corridor and adjacent to the Conservation Area (i.e. lighting associated with the city park and commercial development proposed on the east side of the creek) is needed.

5. Please provide information about whether there will be any ponds, detention basins, or other aquatic features included in the proposed project that could provide habitat for bullfrogs.

6. The BA states that the City will be responsible for ensuring compliance with the implementation of all conservation measures and terms and conditions of the biological opinion and that the City will ensure compliance through policies and conditions of approval for specific development approvals. The BA also states that the City is amenable to developing a Memorandum of Understanding with the Service specifying the City's obligations. The Service concurs that a legal agreement should be developed. The agreement should include mechanisms for allowing Service review of specific development proposals to ensure compliance with the conservation measures and terms and conditions of the biological opinion.

7. Please provide information describing how the City will manage habitat following property transfer but prior to start of redevelopment.

8. The Corps' and Navy's letters did not request consultation on the effects of the proposed project on the threatened vernal pool fairy shrimp (*Branchinecta lynchi*). CNWS is located within the range of venal pool fairy shrimp and potentially supports suitable habitat. The BA concludes that vernal pool fairy shrimp are absent from the action area based on wet and dry season surveys conducted in 2003-2004 and 2007-2008. Please provide the results of these surveys to allow the Service to review in order to determine whether the proposed project may adversely affect this species and/or provide recommendations about the need for additional surveys.

Additional information and comments regarding the Conservation Area:

The BA states that plans for recreational and interpretive facilities within the Conservation Area are largely unavailable at this time and that because the specific locations and descriptions of facilities have not been proposed, authorization for take of listed species resulting from development of these facilities will be obtained separately by East Bay Regional Park District (EBRPD). However, without an understanding of the development and activities proposed within the Conservation Area, the Service cannot assess the extent to which the protection of the Conservation Area will compensate for effects to listed species resulting from the transfer and redevelopment of CNWS.

Taking into consideration the information provided in the BA, it appears that the preservation of the approximately 2,626-acre Conservation Area would not adequately offset effects to listed species resulting from the 1,641 acres of proposed development, especially should recreational facilities be constructed within the Conservation Area. However, in order to make a determination, the Service requests the following information:

1. Please provide a map that depicts the habitat types/land cover within the Conservation Area and identifies the land use zones described in the BA (Open Space/Habitat/Restoration,

Outdoor Education/Interpretation, and Active/Passive Recreation). This map should include all ponds within the Conservation Area and whether they are known to support California red-legged frog or California tiger salamander breeding.

2. Please provide information about the types, locations and acreages of facilities (sports facilities, parks, campgrounds, picnic areas, trails, staging areas, etc.) that are proposed within the Conservation Area. Areas currently developed or planned for development with recreational facilities will not be considered to provide habitat for listed species.

3. The BA states that all lands south of Bailey Road will be designated as conservation open space with the primary purpose of resource conservation. Please clarify how this designation differs from other areas within the Conservation Area and whether there will be any proposed recreational use of this area.

4. There are a number of existing facilities within the Conservation Area including storage bunkers, abandoned military buildings, railroad tracks, and canals. Please provide information about plans for either retaining or removing these facilities within the Conservation Area.

5. The BA states that a Habitat and Mitigation and Management Plan (HMMP) will be developed that describes the measures that will be taken to enhance and manage habitat in the Conservation Area including: proposed aquatic and upland habitat enhancements; a description of the relative roles of the City and EBRPD in enhancing, managing, maintaining, and monitoring the Conservation Area; the means by which the Conservation Area will be protected; and a description of the means by which the enhancements and long-term maintenance and management of the Conservation Area would be funded. This information should be included in the description of the proposed action.

6. Please provide an assessment of potential effects to listed species that may result from exposure to contaminants within the Conservation Area.

Until we receive the requested information, the Service cannot initiate formal consultation on the proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station project. Please address any questions or concerns regarding these comments and recommendations please contact Stephanie Jentsch or Ryan Olah at the letterhead address, telephone (916) 414-6600, or electronic mail at Stephanie_Jentsch@fws.gov or Ryan_Olah@fws.gov.

Sincerely,

for Eric Tattersall,
Deputy Assistant Field Supervisor

cc:
Craig Weightman, California Department of Fish and Game, Napa, CA
Steve Rottenborn, H.T. Harvey and Associates, Los Gatos, CA

Craig Weightman
California Department of Fish and Wildlife, Bay Delta Region
7329 Silverado Trail
Napa, CA 94558

Steve Rottenborn.
H. T. Harvey & Associates
983 University Avenue, Building D
Los Gatos, CA 95032

Navy BRAC PMO

7011 DEC 23 AM 9: 52

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2013-TA-0514

DEC - 4 2015

Ms. Jane Hicks
Chief, Regulatory Division
Attn: Greg Brown
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

Navy BRAC PMO West
Attn: Alan Lee
Base Closure Manager
33000 Nixie Way, Bldg 50
San Diego, California 92147

Subject: Further Discussion of your Request for Formal Consultation for the Proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station, Contra Costa County, California

Dear Ms. Hicks and Mr. Lee:

This letter is in response to the U.S. Army Corps of Engineers (Corps) June 12, 2013, letter and the Department of the Navy's (Navy) October 2, 2013, letter requesting formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed transfer and redevelopment of the former Concord Naval Weapons Station (CNWS) located in the City of Concord, Contra Costa County, California. The proposed project includes the Navy's transfer and conveyance of the inland area (Reuse Area) of the CNWS and the implementation of the Concord Reuse Project Area Plan (CRP Area Plan). At issue are effects to the federally threatened California red-legged frog (*Rana draytonii*), threatened Central California Distinct Population Segment (DPS) of the California tiger salamander (*Ambystoma californiense*), endangered San Joaquin kit fox (*Vulpes macrotis mutica*), threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*), and threatened vernal pool fairy shrimp (*Branchinecta lynchi*). Our comments are provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

On December 18, 2014, the Service issued a letter to the Corps and the Navy providing comments and requesting additional information on the *Biological Assessment for the Concord Reuse Project- Area Plan, Concord, California* (Biological Assessment) provided to the Service along with the June 12, 2013, Corps' letter requesting consultation.

Additional information requested by the Service included (but was not limited to) the following: clarification about the number, timing, and mechanism for land conveyances; the management of transferred lands prior to and following transfer; the location and designs of proposed crossings of Mt. Diablo Creek; restoration plans for Mt. Diablo Creek; and information about plans for recreational facilities/uses and management and enhancement activities proposed for the lands to be transferred to the East Bay Regional Park District (EBRPD). The lands to be transferred to the EBRPD through a Public Benefit Conveyance (the EBRPD PBC Area) are proposed to be converted into a regional park (the Conord Hills Regional Park) and are also proposed to be preserved and managed for listed species in order to compensate for effects listed species resulting from implementation of the CRP Area Plan. The Service's December 18th letter commented that, based on the information in the Biological Assessment, preservation of the approximately 2,626-acre EBRPD PBC Area (114 acres of which currently supports developed areas) would not adequately offset effects to listed species resulting from development within the approximately 2,527-acre area to be conveyed to the City (EDC Area). According to the Biological Assessment, 447 acres within the EDC Area are currently developed, 193 acres would be included in the Mt. Diablo Creek Riparian Corridor, and the remaining areas would be converted to development, city parks, or greenways.

In response, the Service received the following submittals:

- a letter from the Navy and the City, dated March 26, 2015, providing additional information responding to a number of the Service's requests in the December 18th letter;
- a July 14, 2015, email from the Navy describing CERCLA investigation and remediation work to be conducted in the Reuse Area prior to property transfers;
- a July 22, 2015, email from the City providing a second installment of additional information as well as a memo regarding Mt. Diablo Creek Restoration;
- a memo dated July 31, 2015, describing proposed habitat enhancements within the EBRPD PBC Area;
- a memo dated August 3, 2015, describing land use zone descriptions for the proposed Concord Hills Regional Park; and
- a revised draft project description received by the Service on October 24, 2015;

After consideration of all the information we have received to date, as well as discussions during the November 13, 2014, site visit and monthly calls or meetings with the Corps, the Navy, the City, and EBRPD, the Service does not agree that the conveyance of the EBRPD PBC Area is sufficient to compensate for the effects to listed species and their habitat that will result from implementation of the CRP Area Plan. Although the CRP Area Plan focuses development in areas that provide lower quality habitat for listed species, additional compensatory habitat for listed species should be provided for the following reasons:

- although surveys and trapping efforts to the east of Mt. Diablo creek (where CRP Area Plan development will be concentrated) have not found Central California tiger salamanders, the grassland habitat within these areas provides potentially suitable breeding and foraging habitat for this species and it is likely that at least some individuals are present within areas that will be impacted by development in the EDC Area;
- the EDC Area provides upland habitat for the California red-legged frog, which has been documented to occur in Mt Diablo Creek and which is known to inhabit ponds within the

EBRPD PBC Area;

- the quality of habitat for listed species within the EBRPD PBC Area will be diminished by the area's close proximity to the development proposed in the CRP Area Plan. In the future we would expect the EBRPD PBC Area to experience increased human disturbance, increased numbers of urban-adapted predators (e.g. skunks and raccoons), increased numbers of domestic predators (e.g. dogs and cats), increased vehicle-related disturbance, increase risk of vehicle strikes, and increased risk of wildfire. Noise and light pollution and increased potential for invasion by exotic plant species could also degrade habitat within the EBRPD PBC Area;
- recreational use of the EBRPD PBC Area, which will serve as the Concord Hills Regional Park, will diminish the quality of habitat for listed species. Increased human use of the area will result in similar effects as those described above. Based on the proposed Land Use Zones within the EBRPD PBC area, recreation will occur throughout most of the regional park and only very limited areas would be designated specifically for protection and management of listed species. In addition, approximately 40 acres of the EBRPD PBC area are proposed to be developed with recreational facilities, which represents additional habitat loss; and
- although aquatic habitat provided by Mt. Diablo Creek will be enhanced by proposed restoration activities, implementation of the CRP Area Plan will result in development on both sides of the creek for much of its length within the Reuse Area. In areas where both sides of the creek will be developed, creek habitat will be isolated from upland habitat outside the creek setback, thus reducing the value of creek habitat for listed species that utilize uplands extensively to obtain food, disperse, and shelter.

Because the CRP-Area Plan will be implemented over a 35 year period, a phased approach for preserving additional habitat for listed species outside of the EBRPD PBC Area would be acceptable. The Service recommends the preservation and management of an additional acre of habitat per acre of habitat developed (including habitat developed for regional park facilities). Although this would result in a lower overall ratio of habitat preserved versus developed as compared to other development projects in the vicinity, the Service believes this is acceptable based on the City's efforts to preserve higher quality habitat. Preservation of additional habitat could be phased in accordance with development of the EDC Area, but would need to be timed such that adequate habitat would be preserved in advance of development impacts. Although the location of habitat to be preserved would not necessarily need to be identified prior to issuance of a biological opinion, the biological opinion would specify the process, mechanism, and criteria by which habitat to be preserved will be identified and preserved. This would include

- a process for Service approval of proposed compensation lands;
- the mechanism by which land will be preserved and the parties responsible for land preservation;
- the mechanism and parties responsible for conducting and funding long-term management of preserved lands; and
- appropriate geographic and habitat parameters for preserved habitat.

The Service also has the following comments on the revised project description and will provide more detailed edits to the project description electronically. Once these comments have been addressed and agreement has been reached regarding additional compensation to offset effects to

listed species (i.e. the amount, process, mechanism, and criteria for preservation), the Service can complete of the biological opinion for the proposed project.

1. In order to ensure that the preservation of the EBRPD PBC Area occurs prior to start of development impacts, the project description should be amended to state that the EBRPD PBC conveyance will be complete prior to start of development (i.e. initial ground breaking) within the EDC Area.

2. The project description should provide more detailed information about interim management practices for land within the EDC Area both prior to the conveyance of surplus property from the Navy and following the transfer of surplus property, but prior to implementing different phases of the CRP Area Plan.

3. For the EBRPD PBC Area, a Long Term Management Plan should be completed and approved by the Service prior to transfer of the land to EBRPD. The Navy should make the completion of an approved management plan a condition of transfer. The Long Term Management Plan should include a draft PAR or PAR-like analysis to determine the amount of funding needed to implement the management plan as well as a schedule for providing funding to support management in perpetuity.

4. The Service recommended that specific areas within the EBRPD PBC Area be designated exclusively for listed species habitat preservation and management and that recreation in these areas be avoided. The Land Use Zones described in the August 3, 2015, EBRPD memo and accompanying figure (titled Preliminary Zone Map) provided in response to this recommendation do not provide meaningful designations. Conservation Zone 1, which is titled Resource Protection and Enhancement/No Park Uses, is based on buffers around sensitive resources. These buffer areas are scattered throughout the EBRPD PBC Area and do not form a contiguous zone that can be identified and designated as specifically for species protection and management. In addition, it appears that proposed recreational trails pass within Zone 1 areas and that there would be recreational use within Zone1 areas.

5. The revised project description states that an area east of Mt. Diablo Creek and northwest of Bailey Road may be used for disposal of contaminated sediment from remediation sites, but following the completion of such disposal, the area will be managed as grassland suitable for use by California red-legged frogs, Central California tigers salamanders, and Alameda whipsnakes. The Service is concerned that disposing of these soils will result in additional impacts to listed species in this area that were not previously considered and that the disposal of contaminated spoils could make the area inappropriate for compensation for listed species as proposed. The disposal of soils could potentially bury any Central California tiger salamanders inhabiting burrows within the disposal area and contaminated soils (depending on the type and level of contamination) may prevent adequate restoration of vegetation and potentially result in adverse effects to the health and reproduction of listed species.

The Service looks forward to working with the Navy, Corps, City, and EBRPD to finalize the project description for the biological opinion for the Proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station. Please address any questions or concerns regarding these comments and recommendations to Stephanie Jentsch or Ryan Olah at the letterhead address, telephone (916) 414-6496, or electronic mail at Stephanie_Jentsch@fws.gov or Ryan_Olah@fws.gov.

Sincerely,

Jan C. Knight,
Deputy Field Supervisor

cc:
Annee Ferranti, California Department of Fish and Wildlife, Napa, CA
Steve Rottenborn, H.T. Harvey and Associates, Los Gatos, CA

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2013 TA-0514

DEC 11 2015

Ms. Jane Hicks
Chief, Regulatory Division
Attn: Greg Brown
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

Alan K. Lee
Base Closure Manager
Department of the Navy
33000 Nixie Way, Bldg 50
San Diego, California 92147

Subject: Clarification of the Status of the Formal Consultation for the Proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station, Contra Costa County, California

Dear Ms. Hicks and Mr. Lee:

This letter is provided in order to clarify the status of the formal consultation on the proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station (CNWS) located in the City of Concord, Contra Costa County, California. The proposed project will include the Navy's transfer and conveyance of the inland area (Reuse Area) of the CNWS and the implementation of the Concord Reuse Project Area Plan (CRP Area Plan) by the City of Concord.

In a letter dated December 4, 2015, the Service provided comments to the U.S. Army Corps of Engineers (Corps) and the Department of the Navy (Navy) on the documents submitted to the Service to date in support of this consultation. The letter did not, however, specifically address the status or timeline for formal consultation on the proposed project. During a call with the Navy and the Corps on December, 10, 2015, the Navy requested clarification regarding the status of the consultation and the anticipated timeline for completion of a biological opinion.

The Service has received the information necessary to initiate formal consultation for the proposed project pursuant to 50 CFR § 402.14(c) of the implementing regulations pertaining to interagency cooperation (50 § CFR 402). Section 7 allows the Service up to 90 calendar days to conclude formal

consultation and an additional 45 calendar days to prepare our biological opinion. However, at this time, the Service does not have a complete description of the proposed project and has not received responses to the numerous comments provided in the Service's December 4, 2015, letter as well as in a draft revised project description provided electronically by the Service to the Corps and Navy on December 4, 2015. In order for the Service to complete formal consultation and draft a biological opinion for the proposed project, the issues raised in the Service's December 4, 2015, letter must be resolved and the Service must receive a final project description that specifically incorporates outcomes of the issues subject to our ongoing discussions with East Bay Regional Parks and the City of Concord.

Whether the Service is able to meet the 135-day consultation timeframe will depend on when responses to the comments provided in our December 4, 2015 are received, the time it takes to resolve issues specified in the Service's letter, and the receipt of a final project description. If it is not feasible to meet the 135-day consultation time frame, formal consultation may exceed 135 days and the consultation timeline may need to be extended (see 50 CFR § 402.14(e)).

The Service looks forward to continuing our discussions with the Navy and Corps to finalize the project description and complete the biological opinion for the Proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station, which is an important project for all of us.

Please address any questions or concerns regarding these comments and recommendations to Stephanie Jentsch or Ryan Olah at the letterhead address, telephone (916) 414-6496, or electronic mail at Stephanie_Jentsch@fws.gov or Ryan_Olah@fws.gov.

Sincerely,

Jan C. Knight,
Deputy Field Supervisor

cc:
Annee Ferranti, California Department of Fish and Game, Napa, CA
Steve Rottenborn, H.T. Harvey and Associates, Los Gatos, CA

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
33000 NIXIE WAY, BLDG 50 STE 207
SAN DIEGO, CA 92147

5090
Ser BPMOW/0307
September 7, 2016

Ms. Jan Knight
Deputy Field Supervisor
United States Fish and Wildlife Service
2800 Cottage Way
Room W-2605
Sacramento, CA 95825

Dear Ms. Knight:

I am writing this letter in regard to the Section 7 consultation for the Base Realignment and Closure (BRAC) property disposal and reuse at the former Naval Weapons Station (NWS) Concord in Concord, California. The Navy is in the process of completing its National Environmental Policy Act (NEPA) documentation and is proposing transfer of surplus property to the designed property recipients – the City of Concord (City) and the East Bay Regional Park District (EBRPD) – for their redevelopment and productive reuse. The Navy published a Draft Environmental Impact Statement (EIS) in October 2014; however, we cannot finalize this document until the Section 7 consultation is complete. The Section 7 consultation is a critical component of the Navy's EIS, and the Section 7 consultation is impacting the Navy's NEPA and transfer schedules. Our Navy Secretariat is keenly interested in this consultation, project, and schedule.

The Section 7 consultation at NWS Concord is unique because the U.S. Army Corps of Engineers (USACE) has the lead in support of its issuance of a basewide Clean Water Act (CWA) Section 404 permit to the City of Concord. This basewide 404 permit would allow wetland impacts and mitigation to be identified upfront by the City on a programmatic basis in lieu of requiring individual projects and developers to seek separate permits during redevelopment. This unique process and creative approach is supported by all stakeholders, including the U.S. Fish and Wildlife Service (USFWS) and the Navy.

Despite lengthy past delays on this consultation due to USFWS staffing shortages, turnover, furlough, and sequestration, the Navy appreciates your agency's improved responsiveness and participation in the consultation, with monthly calls and face-to-face meetings occurring since May 2015. We wish to take this opportunity to acknowledge and thank Ms. Stephanie Jentsch and Mr. Ryan Olah for their dedicated support and their collective efforts to advance this complex consultation. We additionally thank you for your involvement in this project, with your on-going review of our submittals and your participation in our last face-to-face meeting on May 25, 2016.

As you know, the Section 7 consultation schedule is a key component in building the overall schedules for finalization of the EIS and Navy property transfers. The City has selected a

master developer and the EBRPD is moving forward with its public process for park planning. As such, the Navy, USFWS, and USACE will need to continue our partnership and collaboration in order to efficiently complete our compliance processes and support property reuse. To that end, the Navy requests your agency's continued high prioritization of this project and your commitment to continuity of staff. We understand that Ms. Jentsch has accepted a new position in another division and that USFWS management is, nevertheless, committed to Ms. Jentsch's continuing support of this consultation until the completion of the Biological Opinion (BO). We very much appreciate your recognition of our consultation's significance and how critical Ms. Jentsch's participation is to the successful and timely completion of the BO.

To complete the BO, we request your agency's commitment to the following milestones and schedule, which would result in a Final BO by the end of 2016.

Schedule Target	Milestone
By September 23, 2016	USFWS provides comments on the BO Project Description
On September 28, 2016	Monthly Conference Call
By October 31, 2016	Resolution of USFWS Comments (may involve a face-to-face meeting and additional conference calls)
By November 18, 2016	USFWS issues Draft BO for USACE/Navy review
By December 6, 2016	Navy/USACE/City/EBRPD provide comments on Draft BO
By December 16, 2016	USFWS issues Final BO, having considered stakeholder comments

Thank you again for your support and we look forward to continuing our agencies' collaboration on this challenging and regionally-significant project.

Sincerely,

KIMBERLY A. OSTROWSKI
Director

Copy to: (next page)

5090
Ser BPMOW/0307
September 7, 2016

Copy to:
Ms. Holly Costa
Acting Chief of the Regulatory Division
United States Army Corps of Engineers,
San Francisco District
1455 Market Street, Suite 16
San Francisco, CA 94103

Mr. Guy Bjerke
Director of Community Reuse Planning
City of Concord
1950 Parkside Drive, MS/56
Concord, CA 94519

Mr. Brian W. Holt
Senior Planner
Land Division / Interagency Planning
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605



East Bay Regional Park District

2950 PERALTA OAKS COURT P.O. BOX 5381 OAKLAND CALIFORNIA 94605-0381 T: 1-888-EBPARKS F: 510-569-4319 TRS RELAY: 711 WWW.EBPARKS.ORG

September 22, 2016

The Honorable Sally Jewell, Secretary
U.S. Department of Interior
1849 C St., NW
Washington, DC 20240

Dear Secretary Jewell:

Thank you for your service and for your continued interest in the work of the East Bay Regional Park District. It has been an honor to share with you some of the work we have done with the U.S. Fish and Wildlife Service (East Contra Costa County Habitat Conservation Plan / Natural Community Conservation Plan) and with the National Park Service (Port Chicago Naval Magazine National Memorial). Your recent visit to the future Concord Hills Regional Park and site of the future joint visitor center for Port Chicago was inspirational. It was an important milestone in the effort to make the history of the events at Port Chicago more widely appreciated and understood by the nation.

As the Obama Administration's tenure ends in less than four months, we believe there is a realistic and important opportunity to ensure the story of Port Chicago is permanently protected. The Memorial was the first unit of the National Park Service added by President Barack Obama's signature. It would be more than fitting for his Administration to ensure the Port Chicago story can be told in an accessible, public visitor center on the site of the former Concord Naval Weapons Station. To ensure this is an enduring legacy for the Administration, we need to urgently facilitate the transfer of the lands you toured on your visit to the East Bay Regional Park District through a Public Benefit Conveyance sponsored by the National Park Service's Federal Lands to Parks Program.

In order for us to move forward, we need the Navy to expeditiously finalize their Environmental Impact Statement (EIS). Currently, the Navy cannot finalize their EIS without the commitment of the U.S. Fish and Wildlife Service (USFWS) to a schedule for timely completion of the Biologic Opinion (BO). The Navy recently submitted a letter to Deputy Field Supervisor Jan Knight, dated September 7, 2016, outlining their concerns including: ongoing project delays, staff changes and the potential for additional delays; and requesting the U.S. Fish and Wildlife Service commit to the following schedule:

Schedule Target	**Milestone**
By September 23, 2016	USFWS provides comments on the BO Project Description
On September 18, 2016	USFWS/Navy/Concord/EBRPD Monthly Conference Call
By October 31, 2016	Resolution of USFWS Comments
By November 18, 2016	USFWS issues draft BO for Navy review
By December 6, 2016	Navy, Concord, EBRPD Comments due on draft BO
By December 16, 2016	USFWS incorporates stakeholder comments as appropriate and issues final BO

Board of Directors

Doug Siden, President, Ward 4
Beverly Lane, Vice-President, Ward 6
Dennis Waespi, Treasurer, Ward 3
Diane Burgis, Secretary, Ward 7
Whitney Dotson, Ward 1
John Sutter, Ward 2
Ayn Wieskamp, Ward 5
Robert E. Doyle, General Manager

The East Bay Regional Park District has been working closely with the USFWS, City of Concord and U.S. Navy to complete the Biologic Opinion. The schedule as outlined is reasonable and critical to ensuring the Navy can complete their EIS and move forward with conveyance of the property to the East Bay Regional Park District.

We respectfully request the USFWS commit to this schedule and complete the Biologic Opinion by December 16, 2016. We appreciate your ongoing support of the Concord Hills Regional Park and the Port Chicago Naval Magazine National Memorial. We look forward to continuing our work with the National Park Service to implement the restoration plans, develop recreational facilities and ensure the important story of the Port Chicago Naval Magazine is accessible to the urban communities of Concord and Pittsburg, as well as to the nation at large.

Sincerely,

Robert E. Doyle
General Manager

Cc: Mark DeSaulnier, U.S. Representative
Tom Leatherman, Superintendent Port Chicago Naval Magazine
Dan Ashe, USFWS Director
Paul Souza, USFWS Pacific Southwest Regional Director
Kimberly A. Ostrowski, U.S. Navy Base Realignment and Closure Director
David Siegenthaler, National Park Service, Federal Lands to Parks Program

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Southwest Region
2800 Cottage Way, Suite W-2606
Sacramento, California 95825

IN REPLY REFER TO:
FWS/R8/

Robert E. Doyle
General Manager
East Bay Regional Parks District
2950 Peralta Oaks Court
P.O. Box 5381
Oakland, California 94605-0381

OCT 14 2016

Dear Mr. Doyle:

Thank you for your letter of September 22, 2016 requesting a commitment from the U.S. Fish and Wildlife Service (Service) to complete Endangered Species Act consultation on the conveyance and reuse of land from the site of the former Concord Naval Weapons Station (CNWS) to the City of Concord and East Bay Regional Parks. East Bay Regional Park (EBRP) is particularly interested in enabling a visitor center for the Port Chicago Naval Magazine National Memorial during the current presidential administration on land to be conveyed to EBRP. The Service was asked to commit to issuing a final biological opinion by December 16, 2016, to facilitate this action.

The Service's Sacramento Fish and Wildlife Office (SFWO) has been working for a number of years in an interagency working group consisting of the U.S. Navy, the U.S. Army Corps of Engineers, the City of Concord, the California Department of Fish and Wildlife, as well as EBRP, to discuss conservation and future public uses of on-site resources, including aquatic resources and state and federally-listed species. The working group has met monthly since July 2015 and is now finalizing details of the project description for the land transfer and compiling the information the Service needs to complete a biological opinion. These meetings have been very productive, and we appreciate the commitment to collaboration of all parties involved in this complex action.

The Service reviewed the milestones outlined in your letter and believes we can meet that schedule, which is contingent upon the other agencies meeting their milestones. The CNWS conveyance remains among the highest priority projects for the SFWO and, barring events outside of our control, will make every effort to complete our biological opinion by the desired deadline.

Please contact Jennifer Norris of the SFWO at 916-414-6700 should you have additional questions.

Sincerely,

Regional Director

cc:
Kimberly Ostrowski, Department of the Navy, San Diego, CA
Guy Bjerke, City of Concord, Concord, CA
Scott Wilson, California Department of Fish and Wildlife, Napa, CA
Holly Costa, U.S. Corps of Engineers, San Francisco, CA
Brian Holt, East Bay Regional Park District, Oakland, CA

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

REPLY TO
ATTENTION OF

JUN 12 2013

Regulatory Division

Subject: File Number 2010-00190S

Mr. Rodney McInnis
c/o Mr. Gary Stern
National Marine Fisheries Service, Southwest Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

Dear Mr. McInnis:

This letter serves to initiate informal Section 7 consultation pursuant to the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1531 *et seq.*) (33 C.F.R § 325.2(b)(5)) for federally listed Central California Coast Steelhead (*Oncorhynchus mykiss*), and designated critical habitat for this species.

The U.S. Army Corps of Engineers (Corps) has received an application for a Department of the Army permit from the City of Concord for the re-development of the Concord Naval Weapons Station, located in the City of Concord, Contra Costa County, California. This application is being processed pursuant to Section 404 of the Clean Water Act of 1973 (33 U.S.C. Section 1344). Work would include a multi-phased development of open land, with the creation of new city infrastructure, such as wastewater treatment, schools, fire stations, businesses, homes, parks and roads. Impacts to Corps jurisdiction would include grading and filling of seasonal wetlands and other waters over a span of years. Please see the attached "Biological Assessment," dated May 10, 2013, for more information.

The proposed project has been reviewed for its impacts to federally listed species and their designated critical habitat. According to documents provided by H.T. Harvey and Associates, Central California Coast Steelhead, and their habitat, may be present in the project vicinity. The applicant has proposed avoidance and minimization measures outlined in the enclosed documents on page 28. The Corps has determined that the proposed project would have no effect on the above outlined species and its designated critical habitat.

Additionally, the proposed project has been reviewed for potential impacts to EFH. The Corps has determined that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries in California waters. This determination is based on the fact no species regulated by the Magnuson-Stevens Fishery Conservation and Management Act occurs on the project site.

Should additional information become available that would lead us to determine the proposed project would adversely affect any federally listed species, this letter would then serve as our written initiation of formal consultation pursuant to Section 7 of the Endangered Species Act of 1973, as amended (50 CFR Part 402.14).

You may refer any questions on this matter to Ian Liffmann of my Regulatory staff by telephone at (415) 503-6769 or by e-mail at ian.liffmann@usace.army.mil. All correspondence should be addressed to the Regulatory Division, South Branch, referencing the file number at the head of this letter.

Sincerely,

Jane M. Hicks
Chief, Regulatory Division

Enclosures

Copies Furnished (w/o encl):

City of Concord; Attn: Michael W. Wright
H.T. Harvey & Associates

Shawn Zovod

From: Liffmann, Ian SPN <Ian.Liffmann@usace.army.mil>
Sent: Wednesday, January 22, 2014 9:57 AM
To: Wright, Michael (Michael.Wright@cityofconcord.org); Shawn Zovod; Steve Rottenborn
Subject: FW: [EXTERNAL] Concord Naval Weapons Station - Reuse Plan (2010-00190S)

FYI

Ian Liffmann
U.S. Army Corps of Engineers
Regulatory Division, 16th Floor
1455 Market Street
San Francisco, CA 94103
(415) 503-6769

-----Original Message-----
From: Liffmann, Ian SPN
Sent: Wednesday, January 22, 2014 9:55 AM
To: 'Gary Stern'
Subject: RE: [EXTERNAL] Concord Naval Weapons Station - Reuse Plan (2010-00190S)

Hello Gary-

Thank you very much for your attention to this project. In light of our phone call yesterday morning, and the information provided in the email below, I agree that further consultation would not be necessary. At this point, the Corps does not have any further information that would indicate possible effects on federally listed fish species. The Corps is therefore withdrawing its request for consultation with NMFS on the Concord Naval Weapons Station Reuse Plan (file number 2010-00190S). Please let me know if you need any further information from the Corps.

Thank you,

-Ian

Ian Liffmann
U.S. Army Corps of Engineers
Regulatory Division, 16th Floor
1455 Market Street
San Francisco, CA 94103
(415) 503-6769

-----Original Message-----
From: Gary Stern [mailto:gary.stern@noaa.gov]
Sent: Tuesday, January 21, 2014 10:48 AM
To: Liffmann, Ian SPN
Subject: [EXTERNAL] Concord Naval Weapons Station - Reuse Plan

Hi Ian,

As I mentioned to you by telephone this morning, NMFS has reviewed the materials provided with the Corps' June 12, 2013, request for section 7 consultation regarding the Reuse Plan for the Inland Area of the Concord

Naval Weapons Station. The proposed project's biological assessment dated May 10, 2013 prepared by H.T. Harvey & Assoc. assesses the potential effects of the project on several listed species including threatened Central California Coast (CCC) steelhead. On page 55, the biological assessment discusses man-made barriers to fish migration in Mt. Diablo Creek and concludes that steelhead can no longer access upstream areas in the watershed. This is consistent with other information regarding the watershed reported by Rob Leidy (Leidy et al. 2005) and others. Thus, NMFS concurs with the findings in the biological assessment that threatened steelhead are not present in the Mt. Diablo Creek, including the project's action area. Mt. Diablo Creek is not designated as critical habitat for CCC steelhead. With the biological assessment's determination (on page 76) that the proposed project would have "no effect" upon CCC steelhead, the Corps does not need to consult with NMFS pursuant to section 7 of the ESA. Please let me know if there is additional information NMFS should consider, or if the Corps would like to withdraw this request for section 7 consultation.

thank you
Gary Stern
707-575-6060

--

Consultation under Section 106 of the National Historic Preservation Act

This page intentionally left blank.

Consultation under Section 106 Index

John Hill, Base Closure Manager. August 6, 2007. To: Ione Band of Miwok Indians

John Hill, Base Closure Manager. August 6, 2007. To: California Valley Miwok Tribe

John Hill, Base Closure Manager. August 6, 2007. To: Chicken Ranch Rancheria

John Hill, Base Closure Manager. August 6, 2007. To: Jackson Band of Me-wuk Indians

John Hill, Base Closure Manager. August 6. 2007. To: Mr. Milford Wayne Donaldson, State Historic Preservation Officer

John Hill, Base Closure Manager. August 6, 2007. To: Shingle Springs Rancheria

John Hill, Base Closure Manager. August 6, 2007. To: Tuolumne Rancheria

John Hill, Base Closure Manager. August 6, 2007. To: Buena Vista Ranceria

John Hill, Base Closure Manager. August 7, 2007. To: Concord Historical Society

John Hill, Base Closure Manager. August 7, 2007. To: Trina Marine Ruano Family

John Hill, Base Closure Manager. August 7, 2007. To: The Ohlone Indian Tribe

John Hill, Base Closure Manager. August 7, 2007. To: Katherine Erolinda Perez

Kimberly Ostrowski, Base Closure Manager. October 11, 2012. To: Mr. Tristan Tozer, California Office of Historic Preservation.

Kimberly Ostrowski, Base Closure Manager, October 11, 2012. To: California Valley Miwok Tribe, Ione Bank of Miwok Indians, Shingle Springs Bank of Miwok Indians

Kimberly Ostrowski, Base Closure Manager, October 11, 2012. To: Potentially Interested Parties

Kimberly Ostrowski, Base Closure Manager. January 30, 2013. To: Consulting Parties

Kimberly Ostrowski, Base Closure Manager. January 30, 2013. To: Mr. Tristan Tozer, California Office of Historic Preservation.

Kimberly Ostrowski, Base Closure Manager. January 30, 2013. To: Ms. Anastasia Leigh, U.S. Bureau of Reclamation, and Mr. Mark Seedall, Principal Planner, Contra Costa Water District.

Carol Roland-Nawi, State Historic Preservation Officer. February 14, 2013. To: Kimberly Ostrowski, Acting Base Closure Manager.

Carol Roland-Nawi, State Historic Preservation Officer. January 23, 2014. To: Alan K. Lee. Base Closure Manager.

Alan K. Lee, Base Closure Manager. March 3, 2014. To: Mr. Tristan Tozer. California Office of Historic Preservation, Sacramento, CA.

Alan K. Lee. Base Closure Manager. March 3, 2014. To: Consulting Parties.

Alan K. Lee, Base Closure Manager. March 4, 2014. To: Ms. Kelly Fanizzo, ACHP.

Alan K. Lee, Base Closure Manager. March 5, 2014. To: Mr. Troy Burdick, Superintendent, Central California Agency, Bureau of Indian Affairs

Raymond V. Wallace, Historic Preservation Technician, Office of Federal Agency Programs. April 28, 2014. To: Mr. Alan K. Lee, Base Closure Manager.

Caroline Hall, Assistant Director, Federal Property Management Section. October 15, 2014. To: Ms. Erica Spinelli, NEPA Project Manager, BRAC Program Management.

Alan K. Lee, Base Closure Manager. July 1, 2015. To: Tristan Tozer, California Office of Historic Preservation, Sacramento, CA.

Alan K. Lee, Base Closure Manager. July 1, 2015. To: All consulting parties.

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Mr. Mathew Franklin, Chairperson
Ione Band of Miwok Indians
P.O. Box 1190
Ione, CA 95640

Dear Mr. Franklin:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We request your assistance in identifying any resources or sites within the approximate 5,032-acre portion of the Inland Area that have special significance to your Tribe. Information provided by your Tribe will be respected and will remain

11011
Ser BPMOW.pjm/0744
06 AUG 2007

confidential. Enclosure (3) is provided to help identify and address any comments or concerns you may have. Return of this form does not limit your opportunity to comment at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

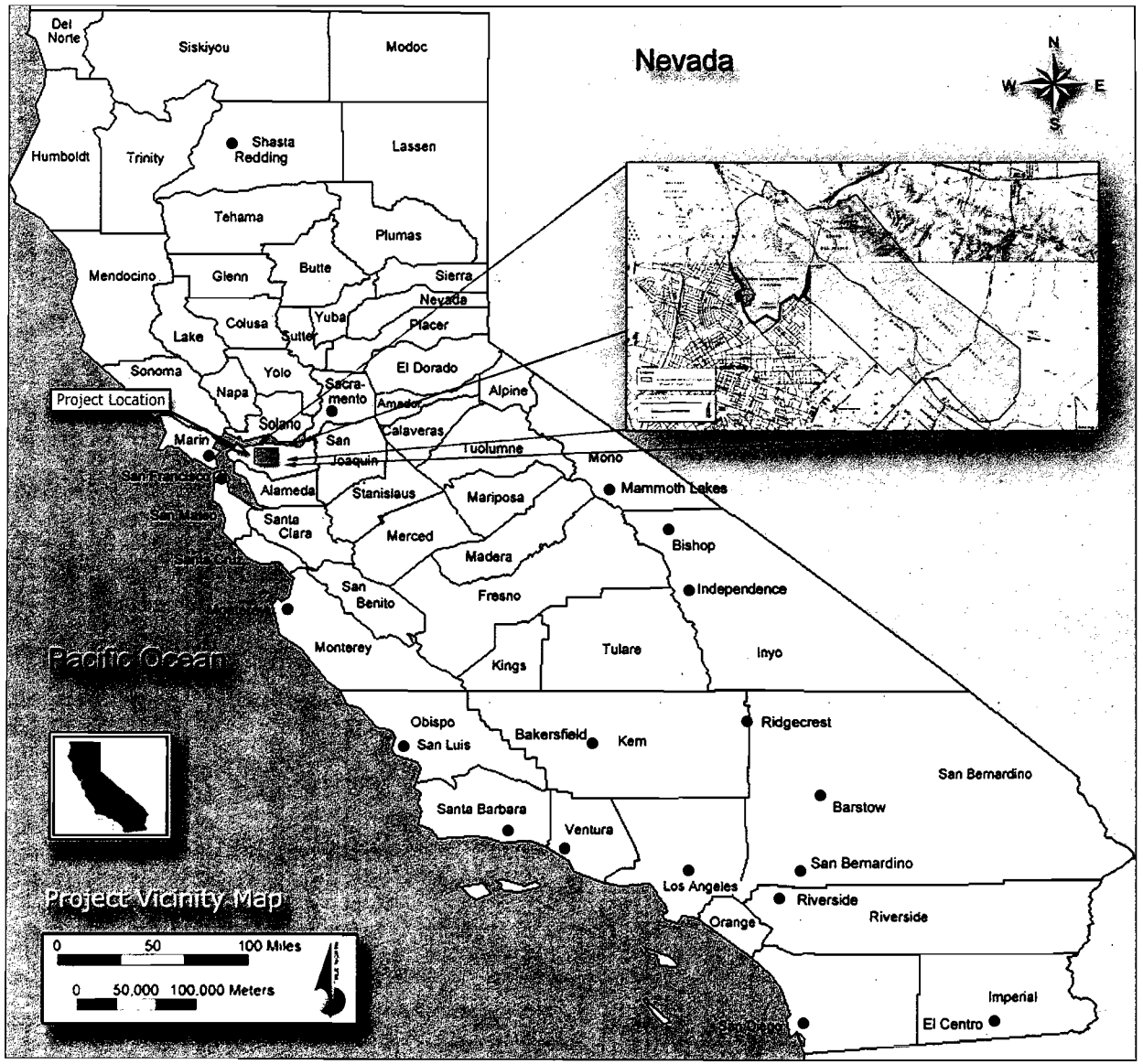
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

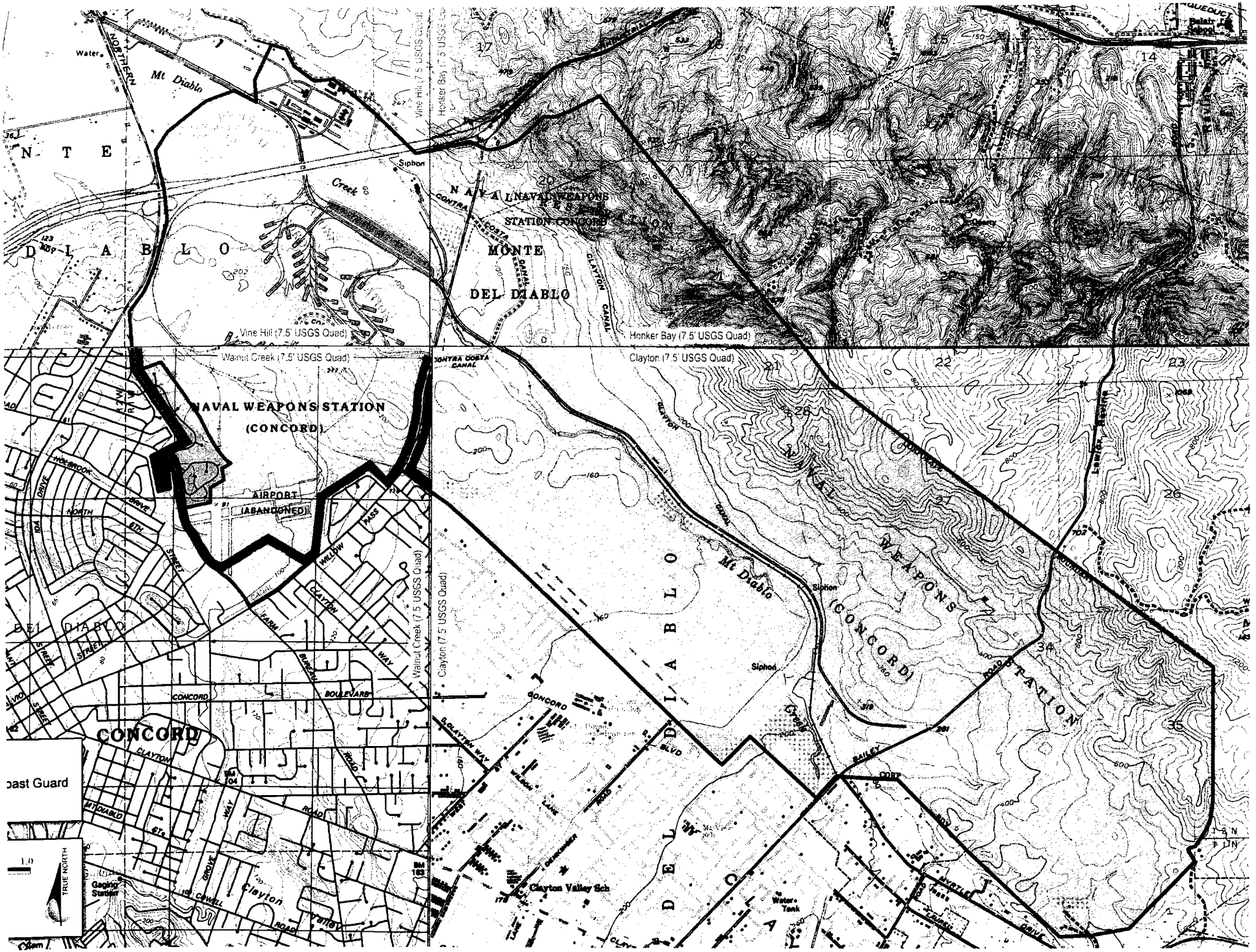
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacra-
mento
Alpine
Project Location
Amador
Solano
Marin
San
Calaveras
Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
Mammoth Lakes
Santa
Clara
Merced
Bishop
Madera
Santa Cruz
San
Benito
Fresno
Independence
Monterey
Kings
Tulare
Inyo
Pacific Ocean
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Riverside
Orange
Imperial
El Centro
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
CONCORD
CLAYTON
DEL DIABLO
MONTE DIABLO
Mt Diablo
Siphon
Creek
CONTRA COSTA CANAL
CLAYTON ROAD
CONCORD BOULEVARD
WILLOW PASS
Clayton Valley Sch
Water Tank
Gaging Station
TRUE NORTH
1.0

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO: NAME AND ADDRESS (if different)

PERSONAL

_____
_____
_____
_____
_____

_____ _____
Signature Date Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrTribes (Read Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Ms. Silvia Burley, Chairperson
California Valley Miwok Tribe
10601 Escondido Place
Stockton, CA 95212

Dear Ms. Burley:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We request your assistance in identifying any resources or sites within the approximate 5,032-acre portion of the Inland Area that have special significance to your Tribe. Information provided by your Tribe will be respected and will remain

11011
Ser BPMOW.pjm/0744
06 AUG 2007

confidential. Enclosure (3) is provided to help identify and address any comments or concerns you may have. Return of this form does not limit your opportunity to comment at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

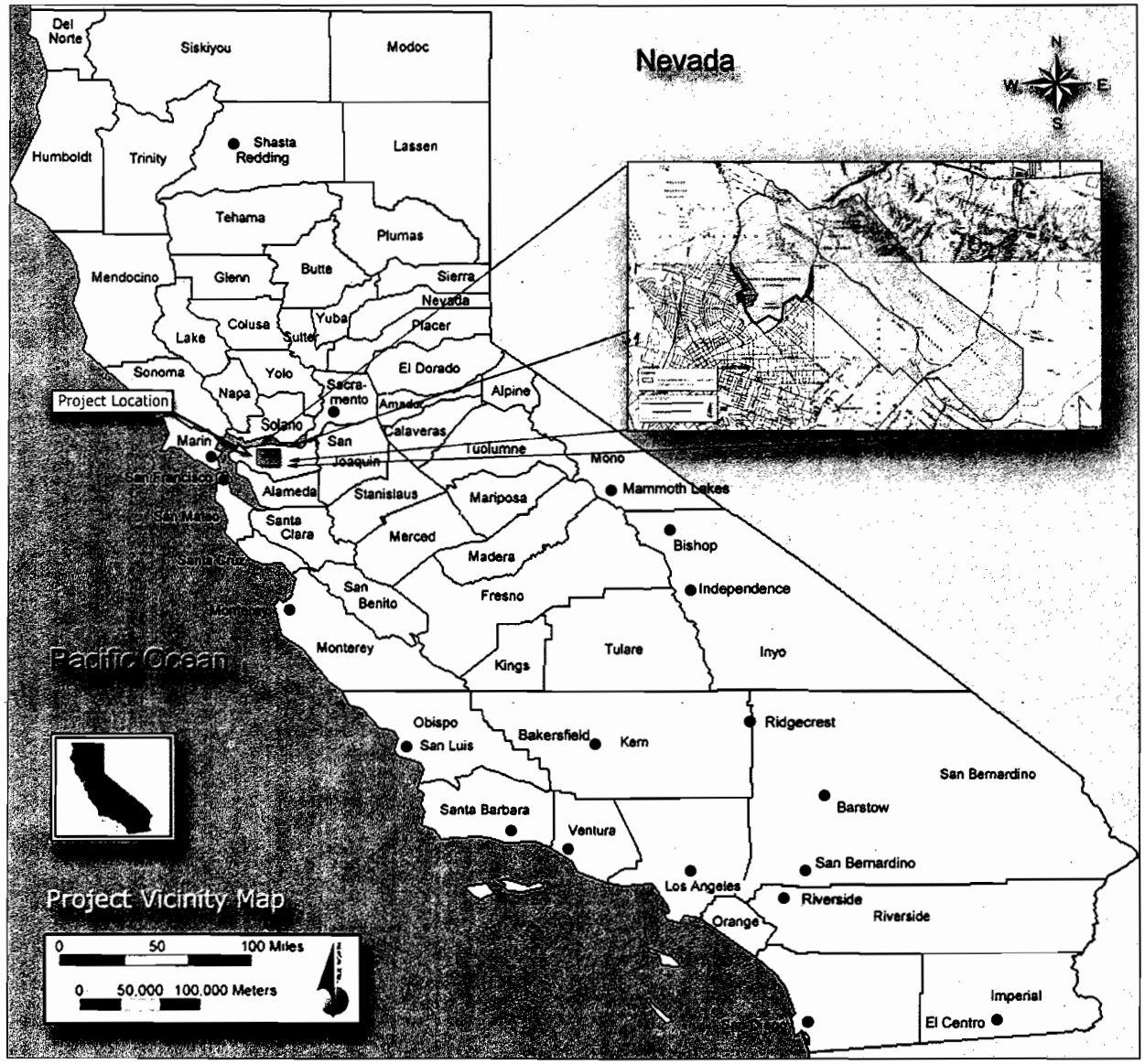
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

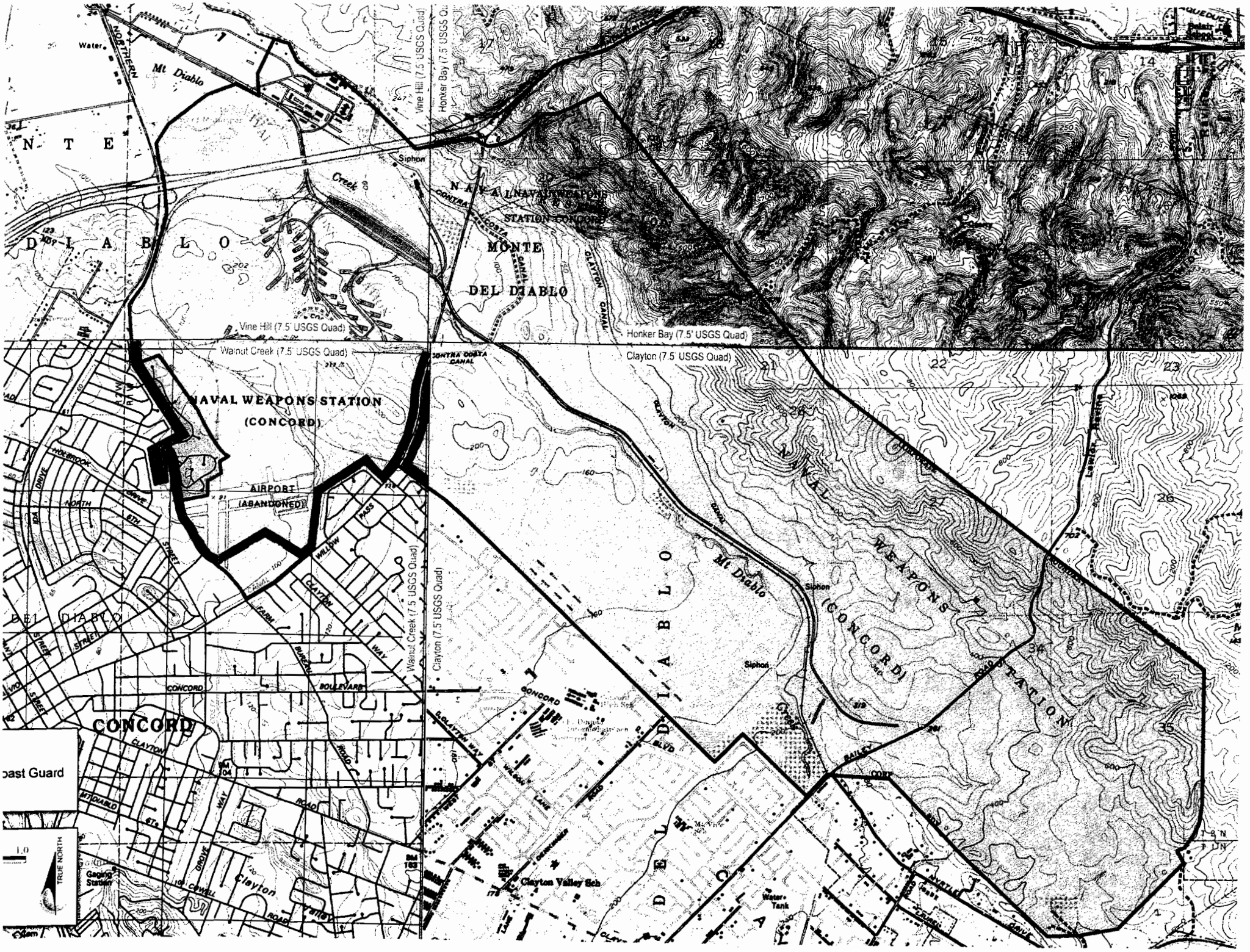
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
El Dorado
Sonoma
Yolo
Napa
Sacra-
mento
Alpine
Project Location
Amador
Solano
Marin
San
Calaveras
Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
Mammoth Lakes
San Mateo
Santa
Clara
Merced
Bishop
Madera
Santa Cruz
San
Benito
Fresno
Independence
Monterey
Pacific Ocean
Monterey
Kings
Tulare
Inyo
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Riverside
Orange
Imperial
El Centro
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
CONCORD
DEL DIABLO
MONTE DIABLO
CONTRA COSTA CANAL
CLAYTON CANAL
Mt Diablo
Siphon
Creek
Water
Clayton Valley Sch
Water Tank
Gaging Station
TRUE NORTH

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO:

PERSONAL

_____ _____
Signature Date

NAME AND ADDRESS (if different)

_____
_____
_____
_____
_____

_____ _____
Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrTribes (Read Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Mr. Lloyd Mathieson, Chairperson
Chicken Ranch Rancheria
P.O. Box 1159
Jamestown, CA 95327

Dear Mr. Mathieson:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We request your assistance in identifying any resources or sites within the approximate 5,032-acre portion of the Inland Area that have special significance to your Tribe. Information provided by your Tribe will be respected and will remain

11011
Ser BPMOW.pjm/0744
06 AUG 2007

confidential. Enclosure (3) is provided to help identify and address any comments or concerns you may have. Return of this form does not limit your opportunity to comment at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

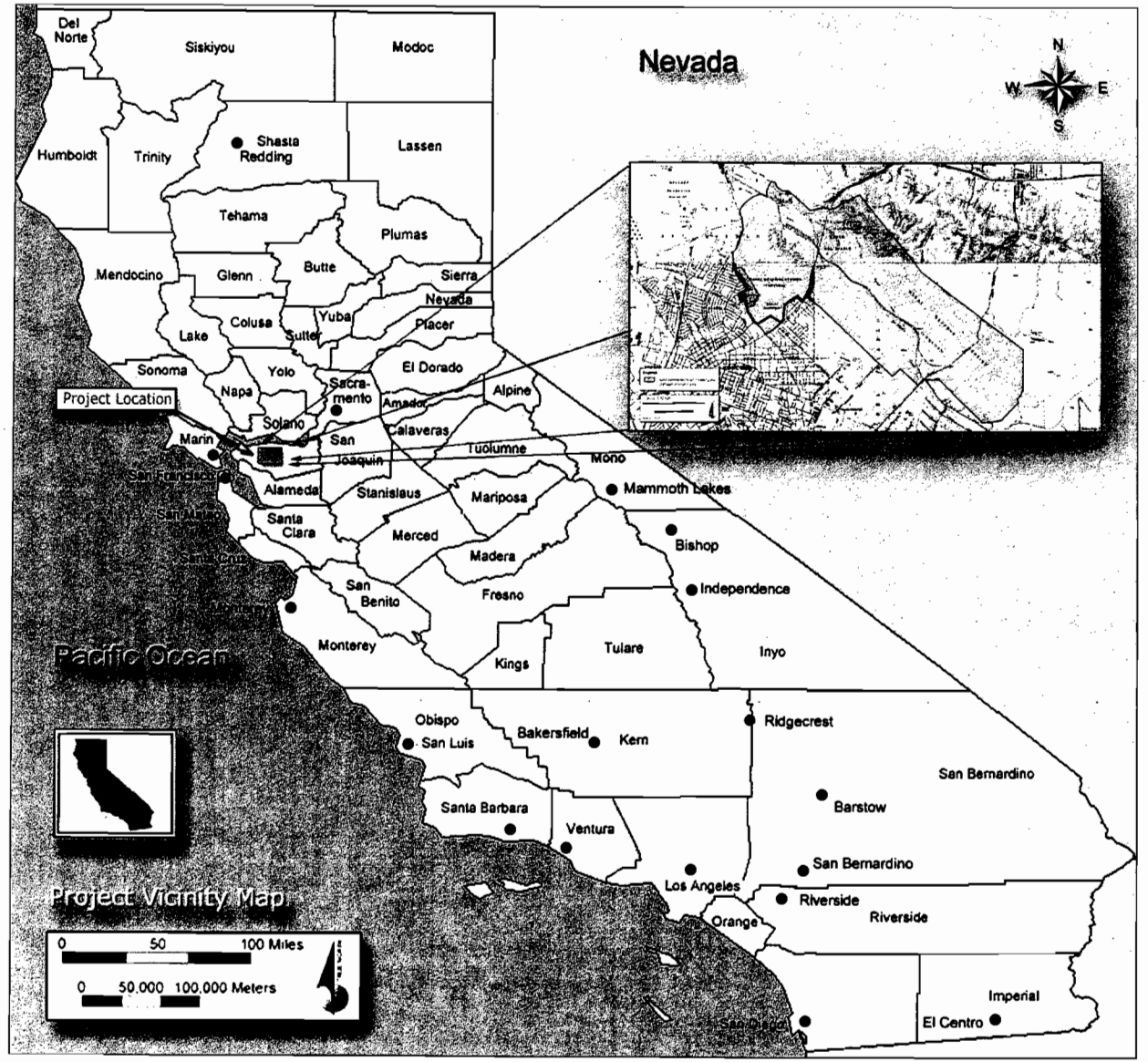
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

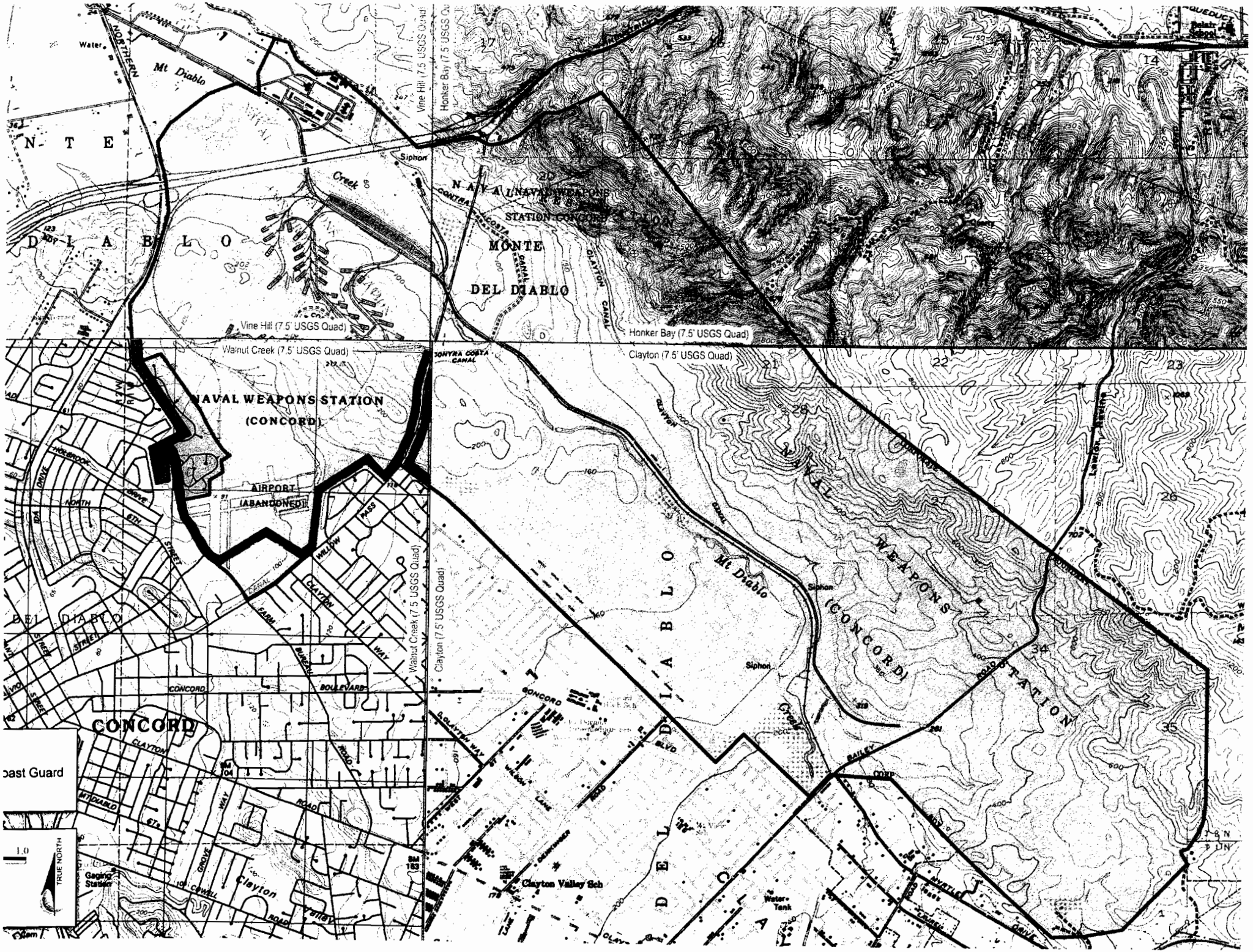
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Project Location
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacra-
mento
Alpine
Amador
Solano
Calaveras
Marin
San
Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
Mammoth Lakes
Santa
Clara
Merced
Bishop
Madera
San
Benito
Fresno
Independence
Monterey
Kings
Tulare
Inyo
Pacific Ocean
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Orange
Riverside
Imperial
El Centro
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
Mt Diablo
Siphon
Creek
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
CONCORD
DEL DIABLO
MONTE DIABLO
CONTRA COSTA CANAL
CLAYTON
Clayton Valley Sch
Water Tank
Gaging Station
TRUE NORTH

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO:

PERSONAL

_____
Signature Date

NAME AND ADDRESS (if different)

_____
_____
_____
_____
_____

_____
Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrTribes (Read Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Ms. Margaret Dalton, Chairperson
Jackson Band of Me-wuk Indians
Jackson Rancheria
P.O. Box 1090
Jackson, CA 95642

Dear Ms. Dalton:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We request your assistance in identifying any resources or sites within the approximate 5,032-acre portion of the Inland Area that have special significance to your Tribe. Information provided by your Tribe will be respected and will remain

11011
Ser BPMOW.pjm/0744
06 AUG 2007

confidential. Enclosure (3) is provided to help identify and address any comments or concerns you may have. Return of this form does not limit your opportunity to comment at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

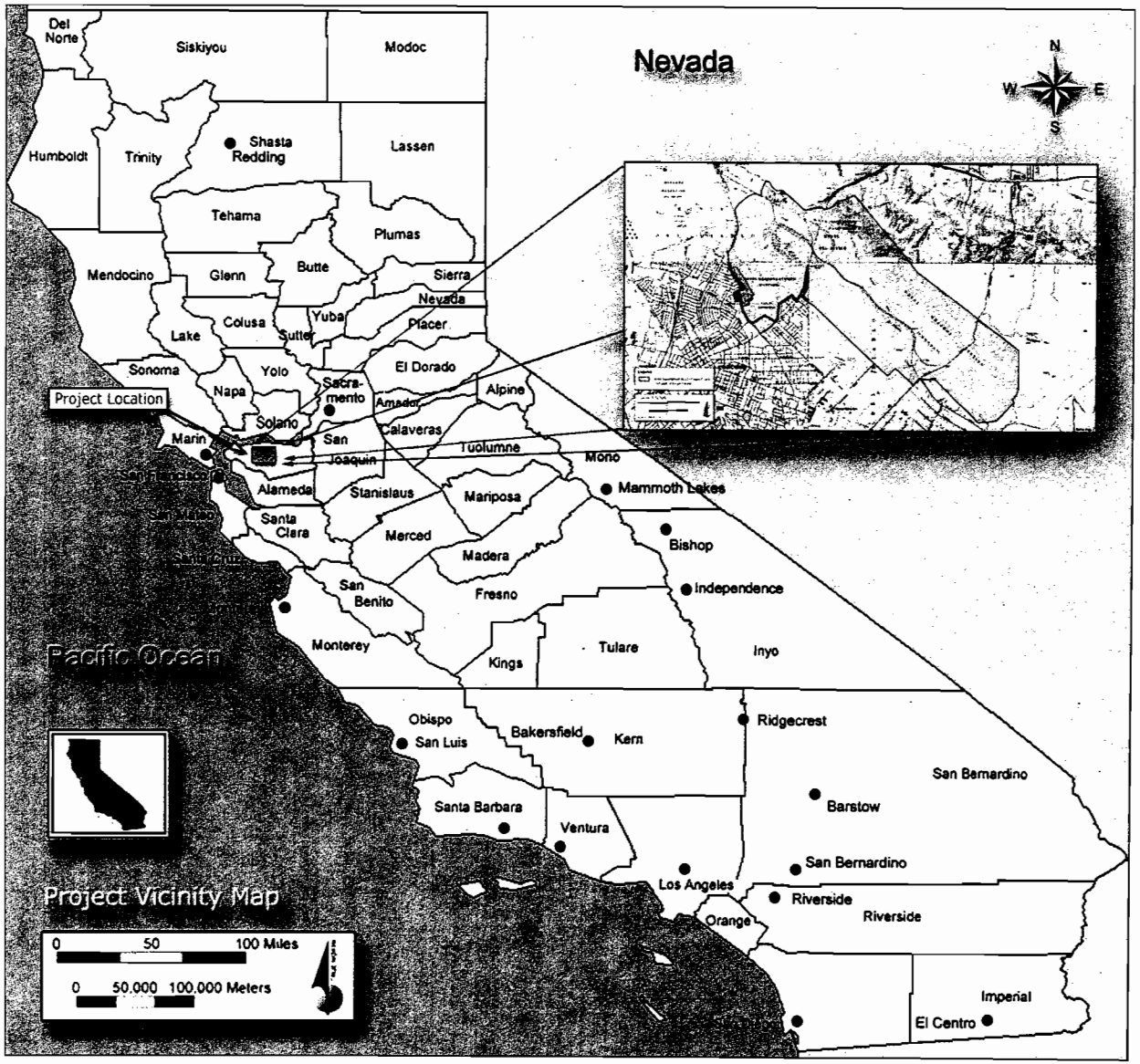
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

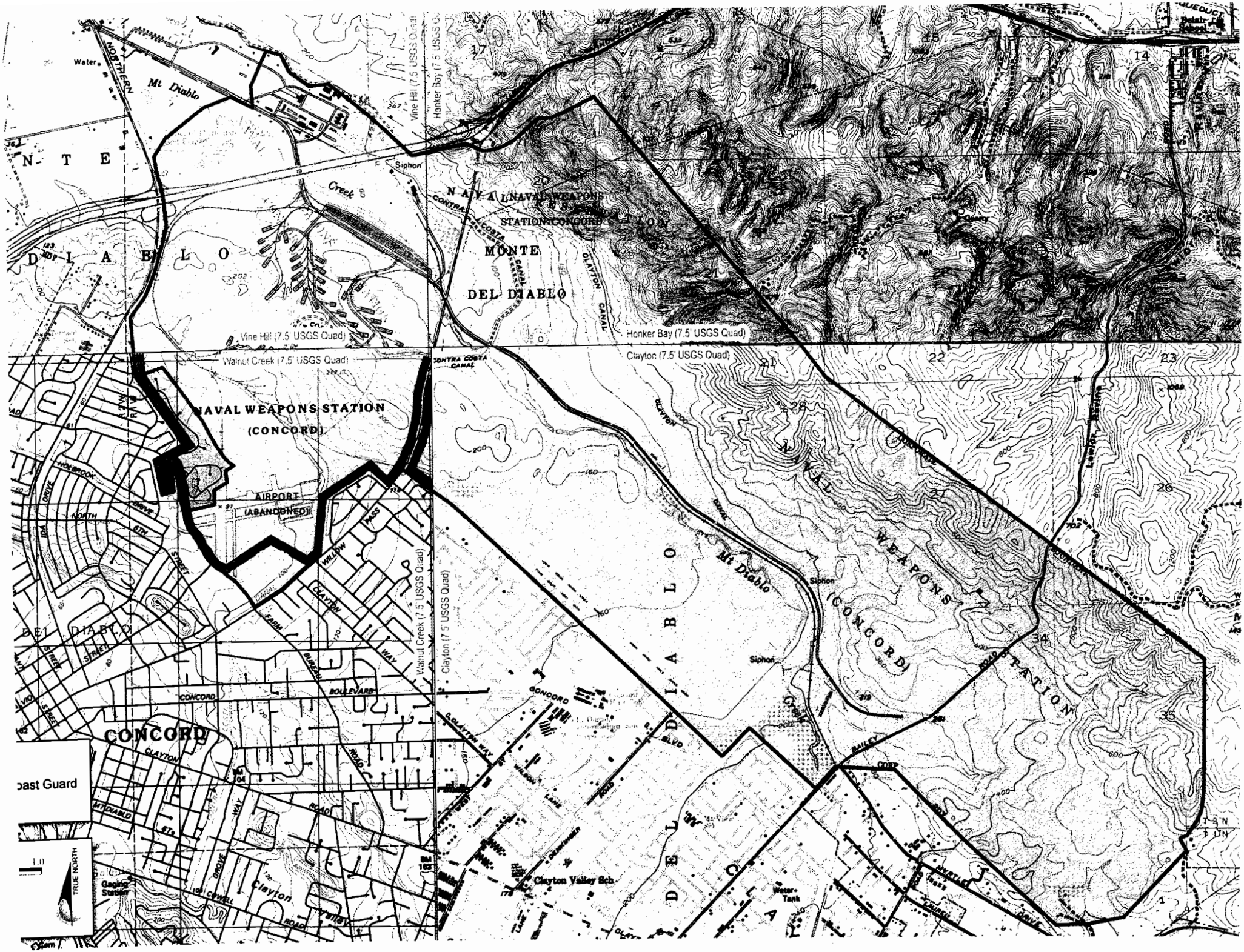
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacra-
mento
Alpine
Project Location
Amador
Solano
Marin
San
Calaveras
Joaquin
Tuolumne
Mono
Alameda
Stanislaus
Mariposa
Mammoth Lakes
Santa
Clara
Merced
Bishop
Madera
San
Benito
Fresno
Independence
Monterey
Kings
Tulare
Inyo
Pacific Ocean
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Orange
Riverside
Imperial
El Centro
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
CONCORD
CLAYTON
MONTE DEL DIABLO
DEL DIABLO
Mt Diablo
Siphon
Creek
CONTRA COSTA CANAL
CLAYTON CANAL
Clayton Valley Sch
Water Tank
Gaging Station
TRUE NORTH

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO:

PERSONAL

NAME AND ADDRESS (if different)

_____
_____
_____
_____
_____

_____ _____
Signature Date Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

11011
Ser BPMOW.pjm/0744

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrTribes (Read Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0728
06 AUG 2007

Mr. Milford Wayne Donaldson
State Historic Preservation officer
Office of Historic preservation
1416 9th Street, Room 1442-7
Sacramento, CA 95814

Dear Mr. Donaldson:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800. The Navy is initiating consultation for this undertaking and seeking concurrence with the proposed project Area of Potential Effects (APE) per 36 CFR 800.4(a)(1).

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP). The Integrated Cultural Resources Plan (ICRMP) recommended that the DoN consider reevaluating potential eligibility for selected buildings based upon the passage of time and the acquisition of new information. Reevaluation of buildings and structures would likely occur in conjunction with the NEPA process.

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007.

11011
Ser BPMOW.pjm/0728
06 AUG 2007

The Navy is currently seeking concurrence with the proposed project APE pursuant to 36 CFR 800.4(a)(1).

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942. Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

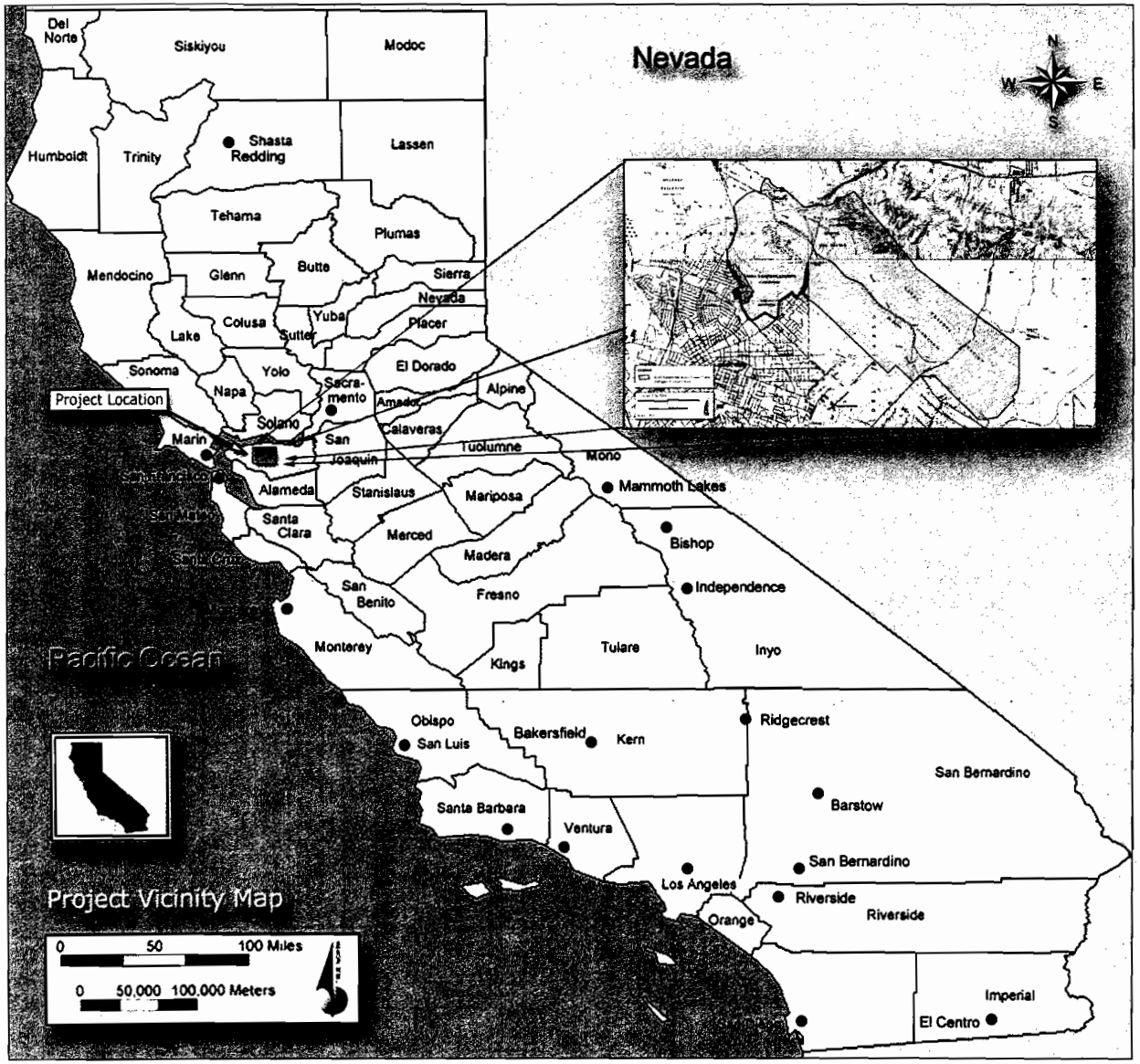
Enclosures: 1. Project Vicinity Map
2. APE

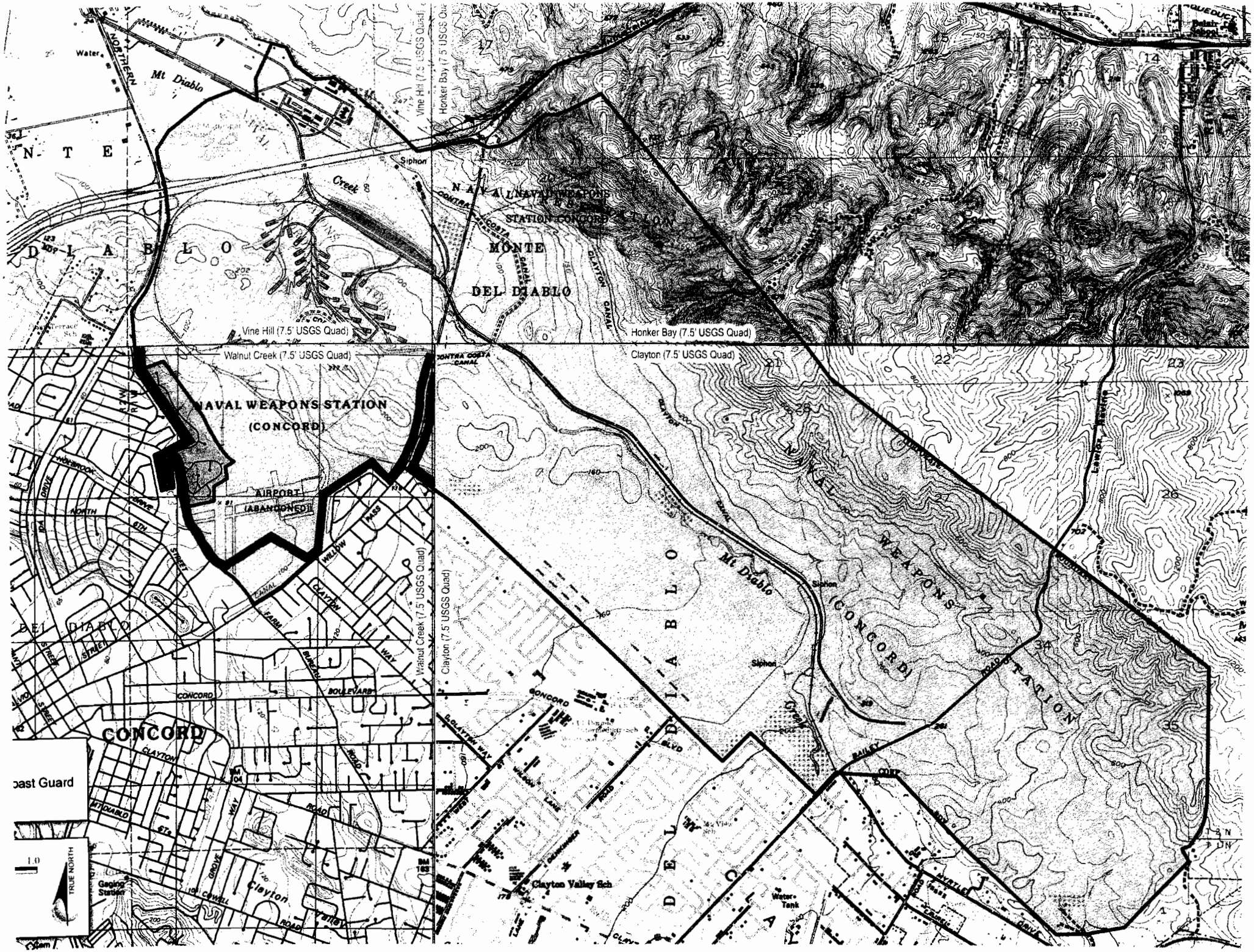
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station Seal Beach
Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacra-
mento
Alpine
Project Location
Amador
Solano
Marin
San
Calaveras
Joaquin
Tuolumne
Mono
Alameda
Stanislaus
Mariposa
Mammoth Lakes
Santa
Clara
Merced
Bishop
Madera
San
Benito
Fresno
Independence
Monterey
Tulare
Inyo
Pacific Ocean
Kings
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Orange
Riverside
Imperial
El Centro
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
MONTE DEL DIABLO
CONCORD
Clayton
Mt Diablo
Siphon
Creek
AIRPORT (ABANDONED)
Clayton Valley Sch
Water Tank
Gaging Station
TRUE NORTH

11011
Ser BPMOW.pjm/0728
06 AUG 2007

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrSHPO (Read-Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Mr. Nicholas H. Fonseco, Chairperson
Shingle Springs Rancheria
P.O Box 1340
Shingle Springs, CA 95682

Dear Mr. Fonesco:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We request your assistance in identifying any resources or sites within the approximate 5,032-acre portion of the Inland Area that have special significance to your Tribe. Information provided by your Tribe will be respected and will remain

11011
Ser BPMOW.pjm/0744
06 AUG 2007

confidential. Enclosure (3) is provided to help identify and address any comments or concerns you may have. Return of this form does not limit your opportunity to comment at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

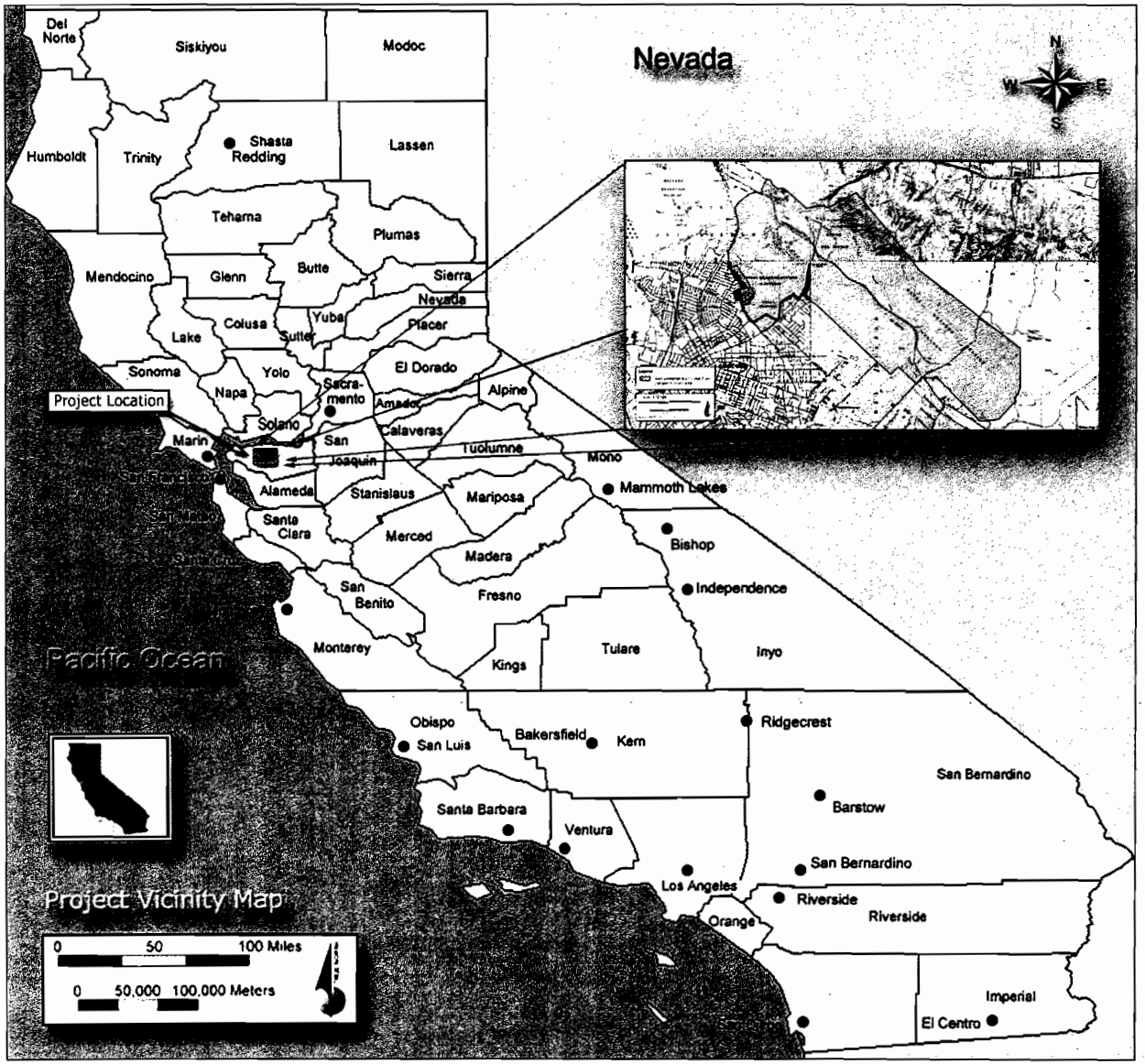
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

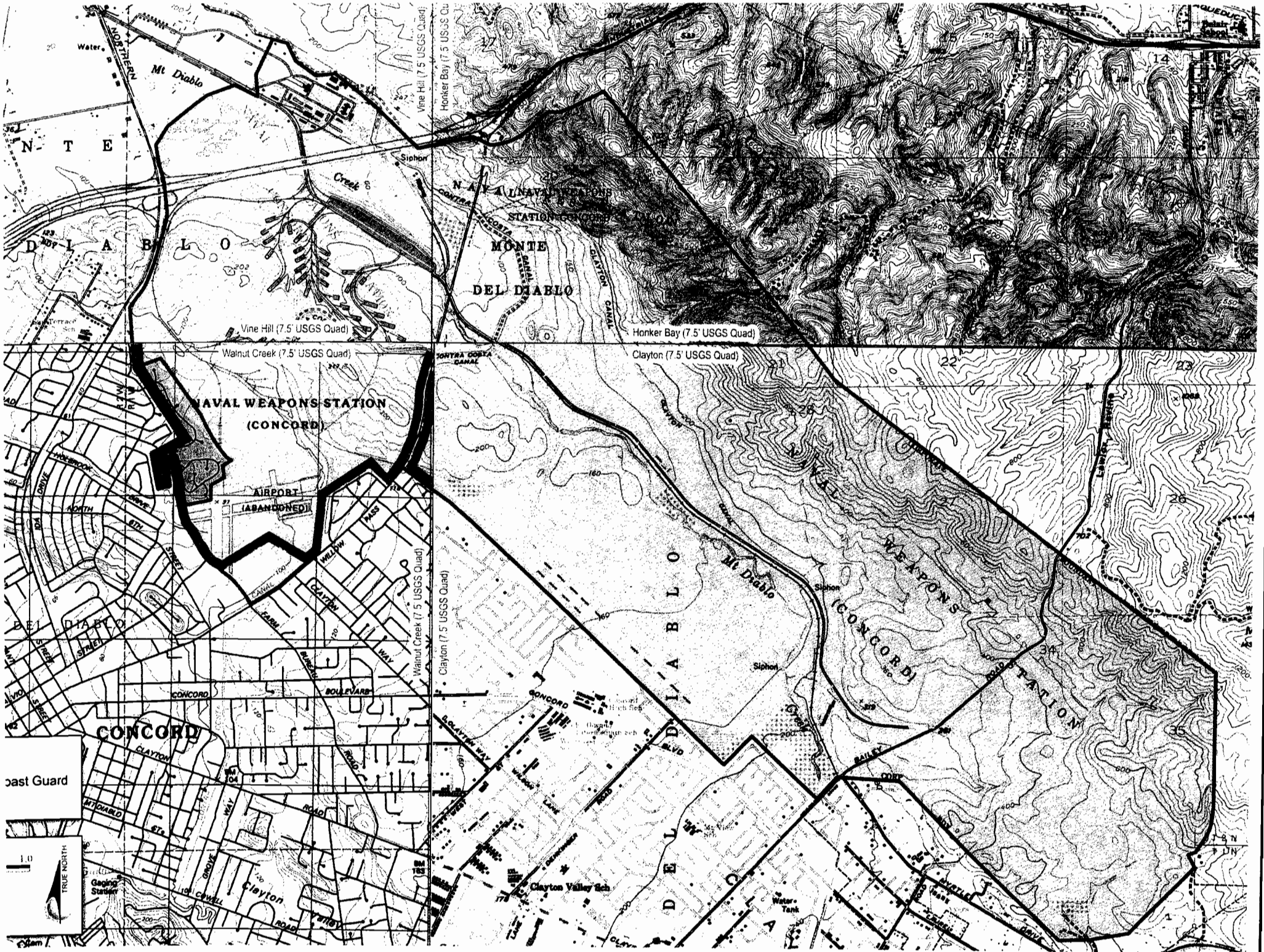
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacra-
mento
Amador
Alpine
Project Location
Solano
Calaveras
Marin
San
Joaquin
Tuolumne
Mono
Alameda
Stanislaus
Mariposa
Mammoth Lakes
Santa
Clara
Merced
Bishop
Madera
San
Benito
Fresno
Independence
Monterey
Kings
Tulare
Inyo
Pacific Ocean
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Orange
Riverside
Imperial
El Centro
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
CONCORD
Clayton
DEL DIABLO
MONTE DEL DIABLO
Mt Diablo
Siphon
Creek
CONTRA COSTA CANAL
CLAYTON CANAL
Clayton Valley Sch
Water Tank
Gaging Station
TRUE NORTH

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO: NAME AND ADDRESS (if different)

PERSONAL

_____
_____
_____
_____
_____

_____ _____
Signature Date Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

11011
Ser BPMOW.pjm/0744
0 6 AUG 2007

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrTribes (Read Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Mr. Kevin Day, Chairperson
Tuolumne Rancheria
P.O. Box 699
Tuolumne, CA 95379

Dear Mr. Day :

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We request your assistance in identifying any resources or sites within the approximate 5,032-acre portion of the Inland Area that have special significance to your Tribe. Information provided by your Tribe will be respected and will remain

11011
Ser BPMOW.pjm/0744
06 AUG 2007

confidential. Enclosure (3) is provided to help identify and address any comments or concerns you may have. Return of this form does not limit your opportunity to comment at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

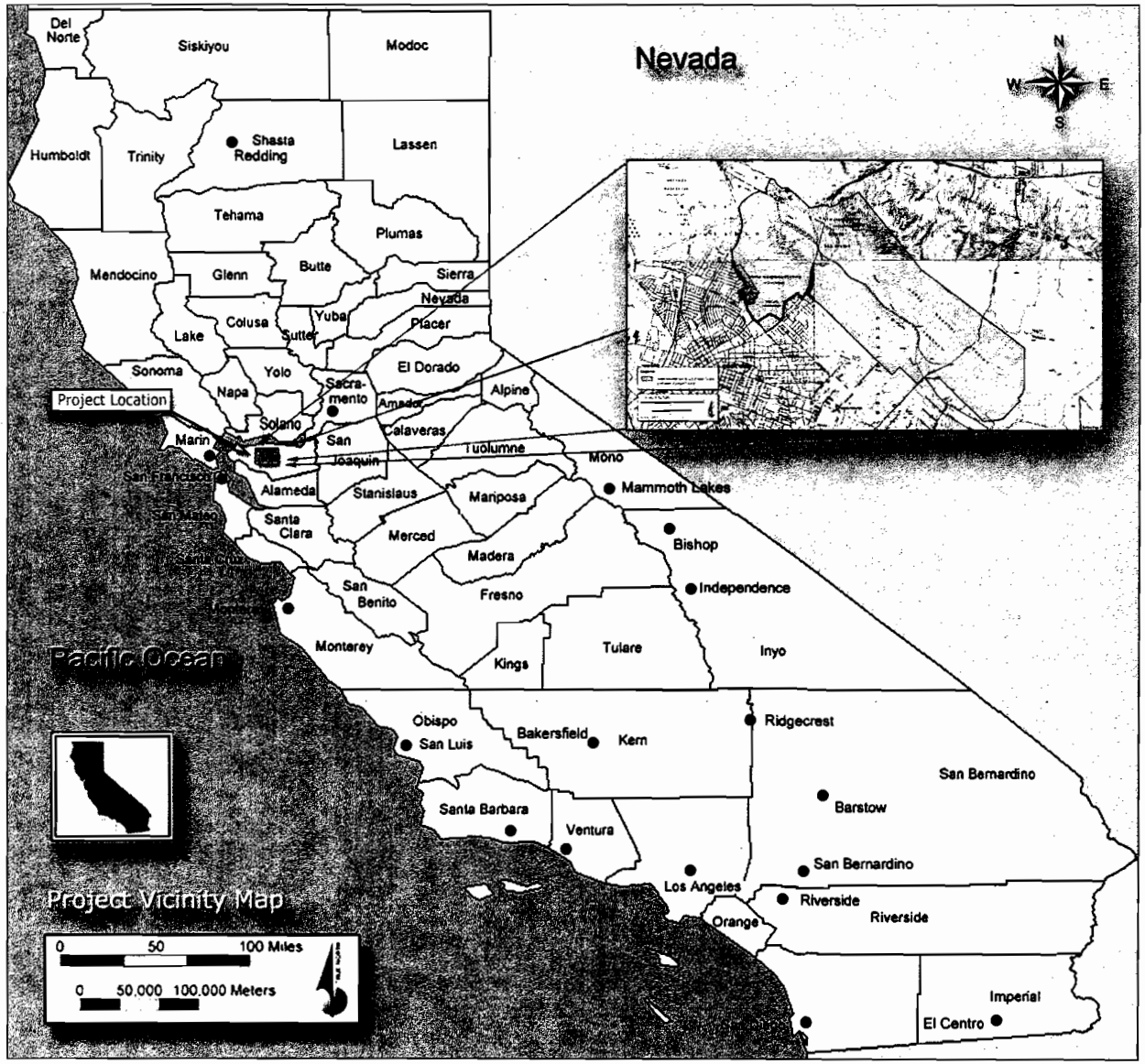
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

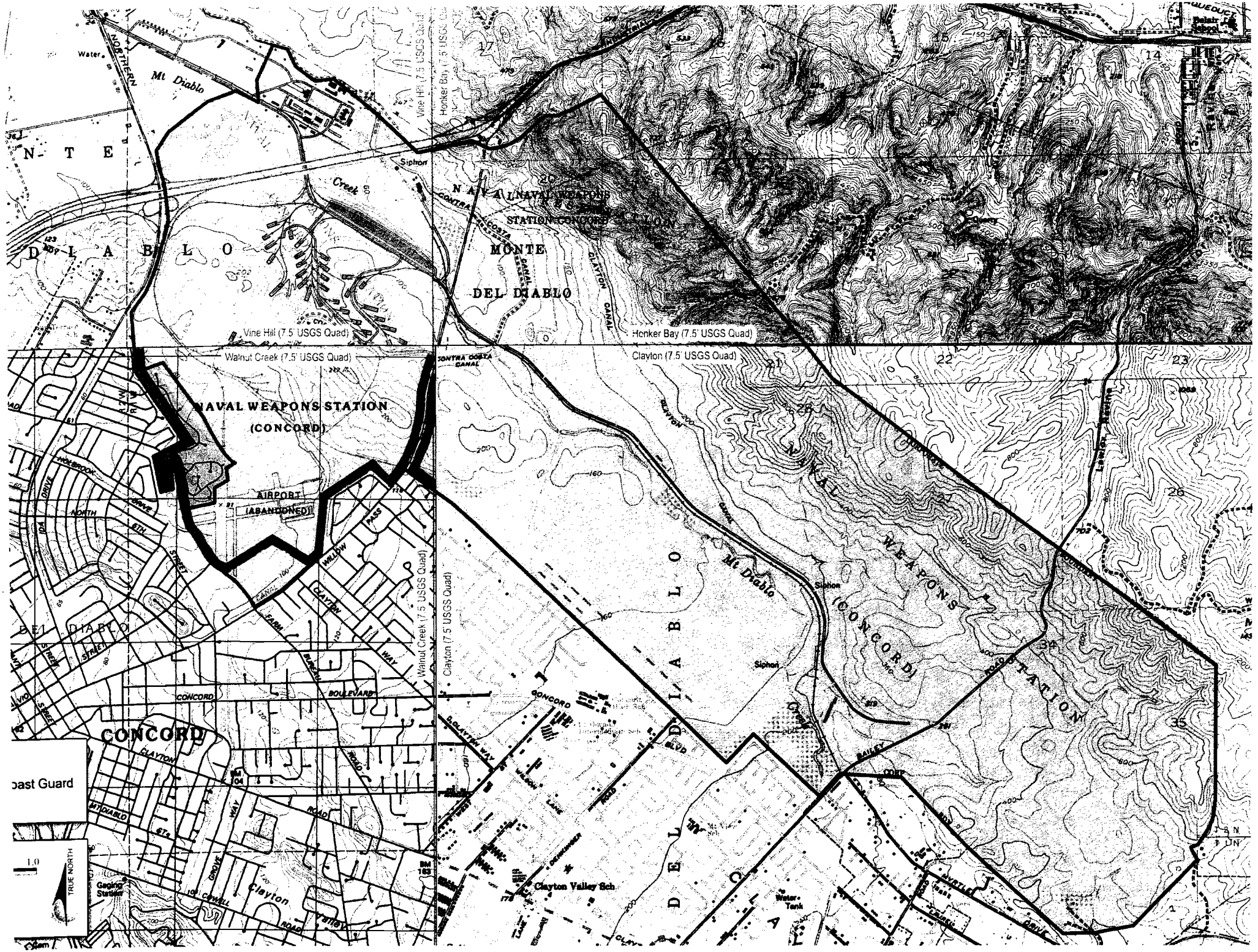
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Project Location
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacramento
Amador
Alpine
Solano
Calaveras
Marin
San Francisco
San Joaquin
Tuolumne
Mono
Alameda
Stanislaus
Mariposa
Mammoth Lakes
San Mateo
Santa Clara
Merced
Bishop
Madera
San Benito
Fresno
Independence
Monterey
Kings
Tulare
Inyo
Pacific Ocean
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Orange
Riverside
Imperial
El Centro
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
CONCORD
Clayton
Mt Diablo
Siphon
Creek
Clayton Valley Sch
Water Tank
Gaging Station
TRUE NORTH
1.0

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO:

PERSONAL

_____
Signature Date

NAME AND ADDRESS (if different)

_____
_____
_____
_____
_____

_____
Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrTribes (Read Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Ms. Rhonda L. Morningstar Pope, Spokesperson
Buena Vista Rancheria
P.O. Box 162283
Sacramento, CA 95816

Dear Ms. Pope:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We request your assistance in identifying any resources or sites within the approximate 5,032-acre portion of the Inland Area that have special significance to your Tribe. Information provided by your Tribe will be respected and will remain

11011
Ser BPMOW.pjm/0744
06 AUG 2007

confidential. Enclosure (3) is provided to help identify and address any comments or concerns you may have. Return of this form does not limit your opportunity to comment at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

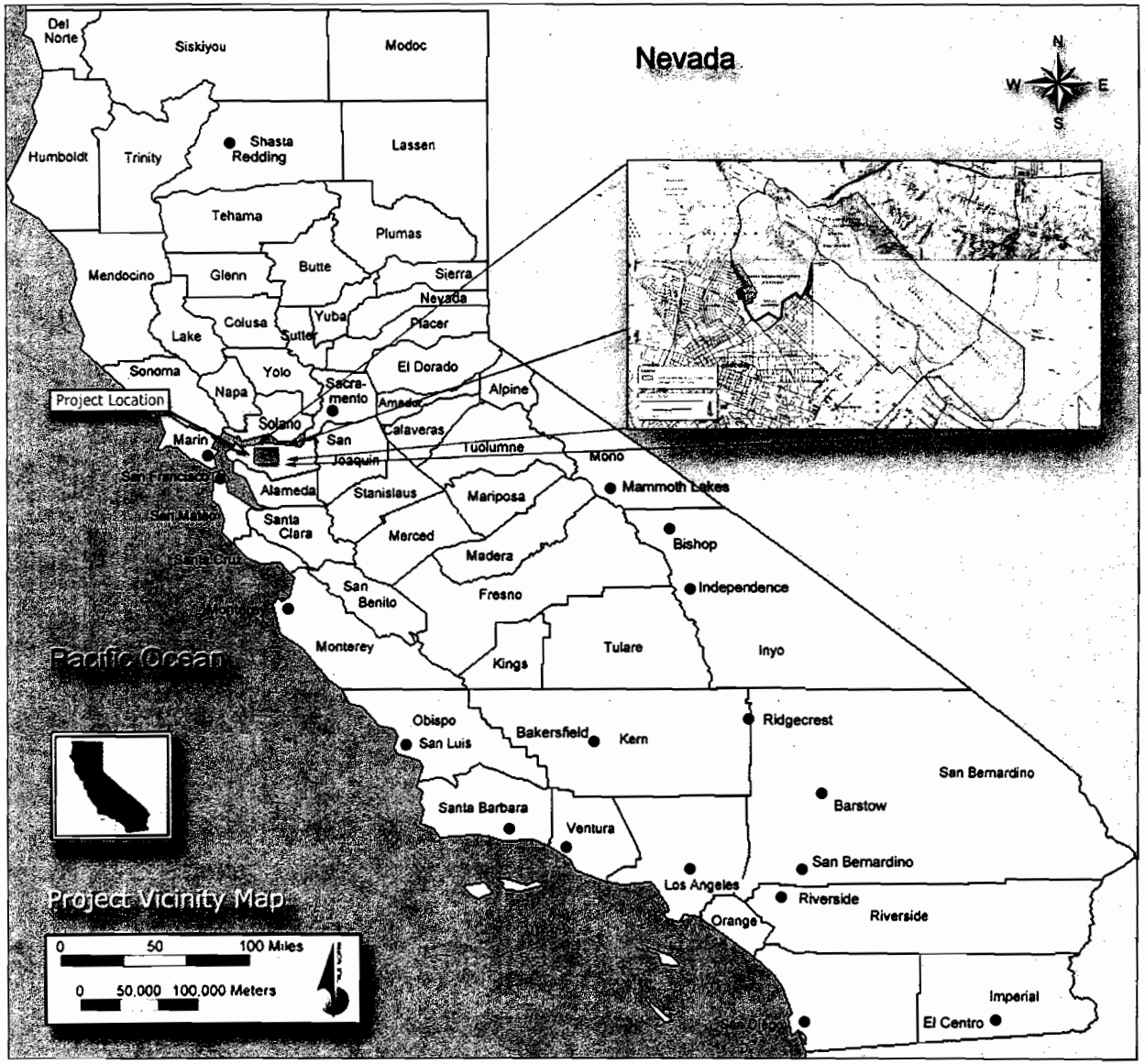
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

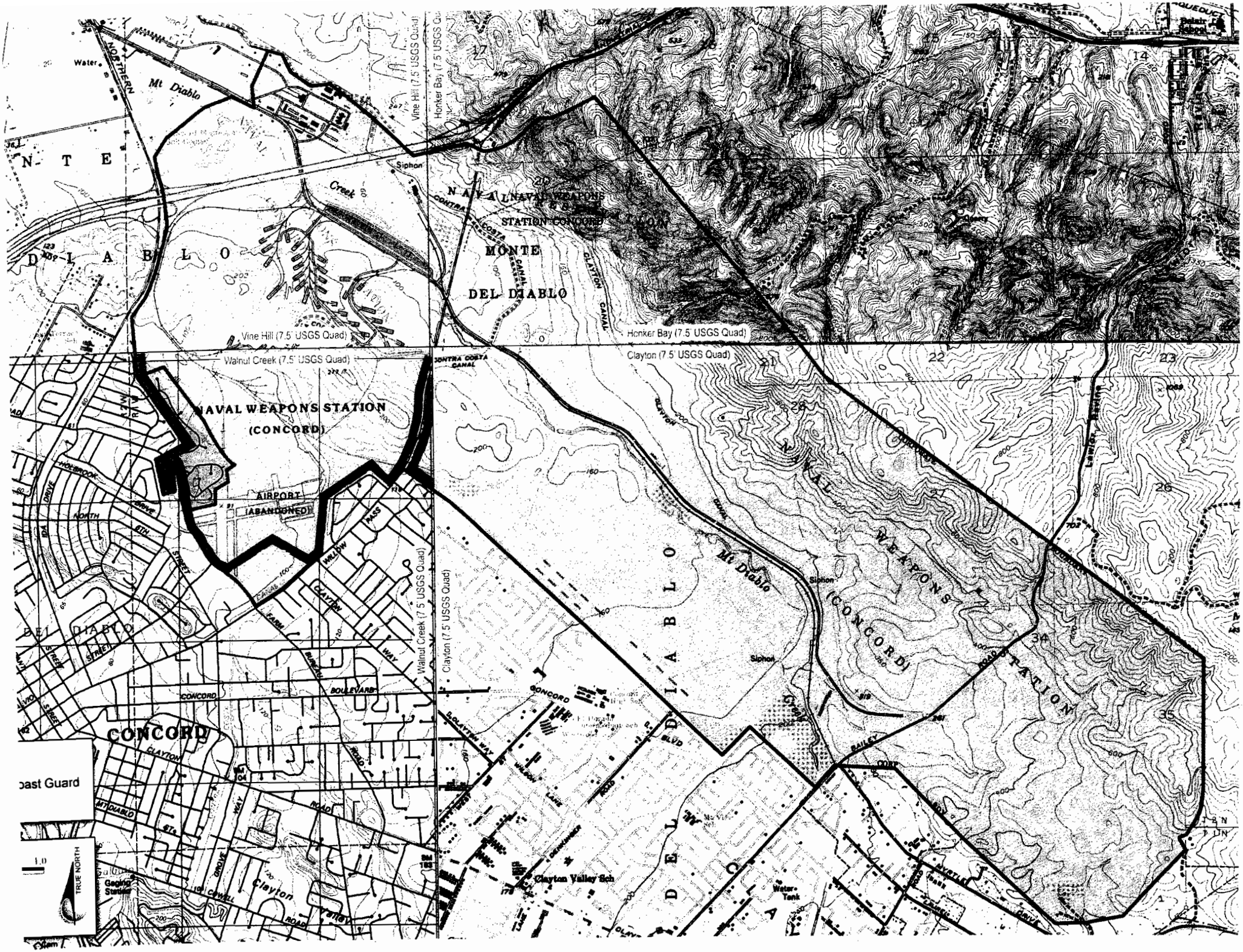
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacra-
mento
Alpine
Amador
Project Location
Solano
Calaveras
Marin
San
Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
Mammoth Lakes
San Mateo
Santa
Clara
Merced
Bishop
Madera
Santa Cruz
San
Benito
Fresno
Independence
Monterey
Kings
Tulare
Inyo
Pacific Ocean
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Orange
Riverside
Imperial
El Centro
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
CONCORD
Clayton
Clayton Valley Sch
Water Tank
Siphon
Mt Diablo
CONTRA COSTA CANAL
CLAYTON CANAL
MONTE DEL DIABLO
DEL DIABLO
Coast Guard
TRUE NORTH

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO:

PERSONAL

_____
Signature Date

NAME AND ADDRESS (if different)

_____
_____
_____
_____
_____

_____
Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

11011
Ser BPMOW.pjm/0744
06 AUG 2007

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrTribes (Read Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0745
07 AUG 2007

Concord Historical Society
Concord History Resource Center
1601 Sutter Street, Suites E & F
Concord, CA 94520

Dear Sir or Madam:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We greatly appreciate any comments or concerns you may have regarding the project and would like to know whether you wish to participate as a consulting party per 36 CFR 800.2(c)(5). Enclosure 3 is provided to help you identify and address any concerns you

11011
Ser BPMOW.pjm/0745
07 AUG 2007

may have and to let us know if you would like to participate in the consultation. Return of this form does not limit your opportunity to participate at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

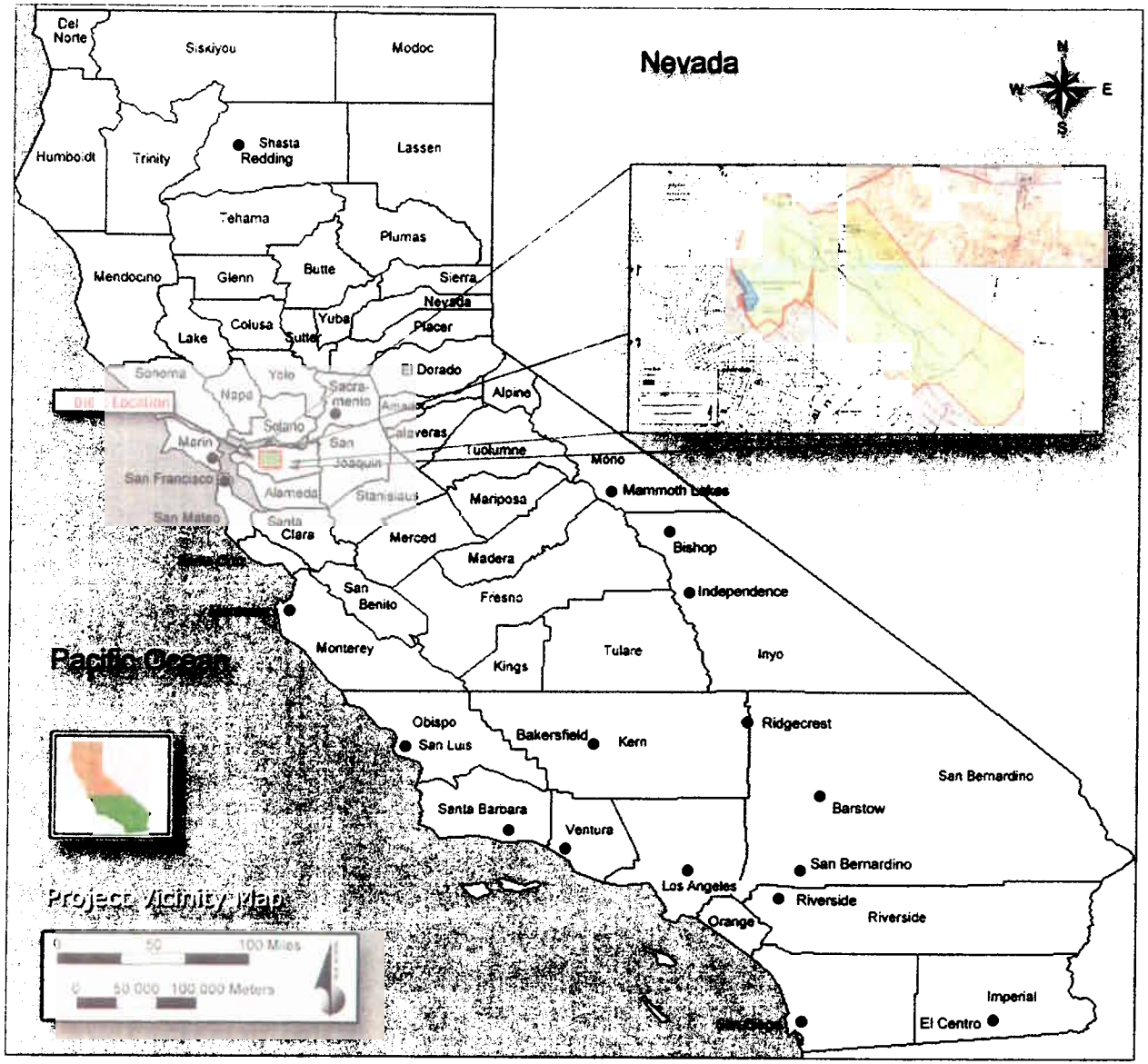
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

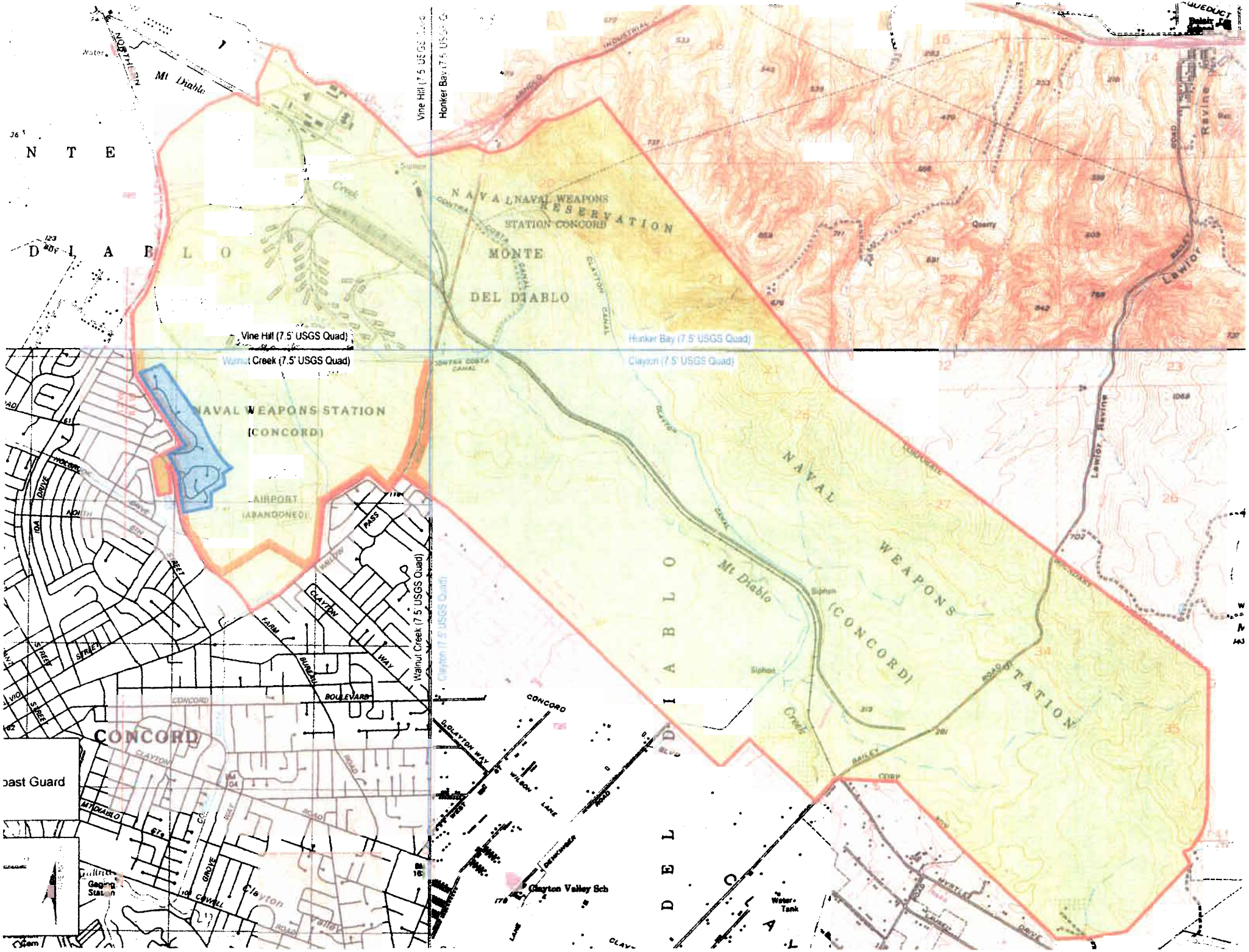
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacra-mento
Alpine
Solano
Amador
Marin
San Joaquin
Calaveras
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
Mammoth Lakes
San Mateo
Santa Clara
Merced
Bishop
Madera
San Benito
Fresno
Independence
Monterey
Kings
Tulare
Inyo
Pacific Ocean
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Orange
Riverside
Imperial
El Centro
Project Vicinity Map
50
100 Miles
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
NAVAL WEAPONS RESERVATION STATION CONCORD
MONTE DEL DIABLO
CONCORD
Clayton Valley Sch
Water Tank
Mt Diablo
Siphon
Creek
Quarry
Lawlor Ravine
CONTRA COSTA CANAL
CLAYTON
WILSON LANE
BAILEY ROAD
MT DIABLO
BOULEVARD
Coast Guard

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO:

PERSONAL

NAME AND ADDRESS (if different)

_____
_____
_____
_____
_____

_____ _____
Signature Date Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0745
07 AUG 2007

Trina Marine Ruano Family
Ramona Garibay, Representative
16010 Halmar Lane
Lathrop, CA 95330

Dear Ms. Garibay:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We greatly appreciate any comments or concerns you may have regarding the project and would like to know whether you wish to participate as a consulting party per 36 CFR 800.2(c)(5). Enclosure 3 is provided to help you identify and address any concerns you

11011
Ser BPMOW.pjm/0745
07 AUG 2007

may have and to let us know if you would like to participate in the consultation. Return of this form does not limit your opportunity to participate at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

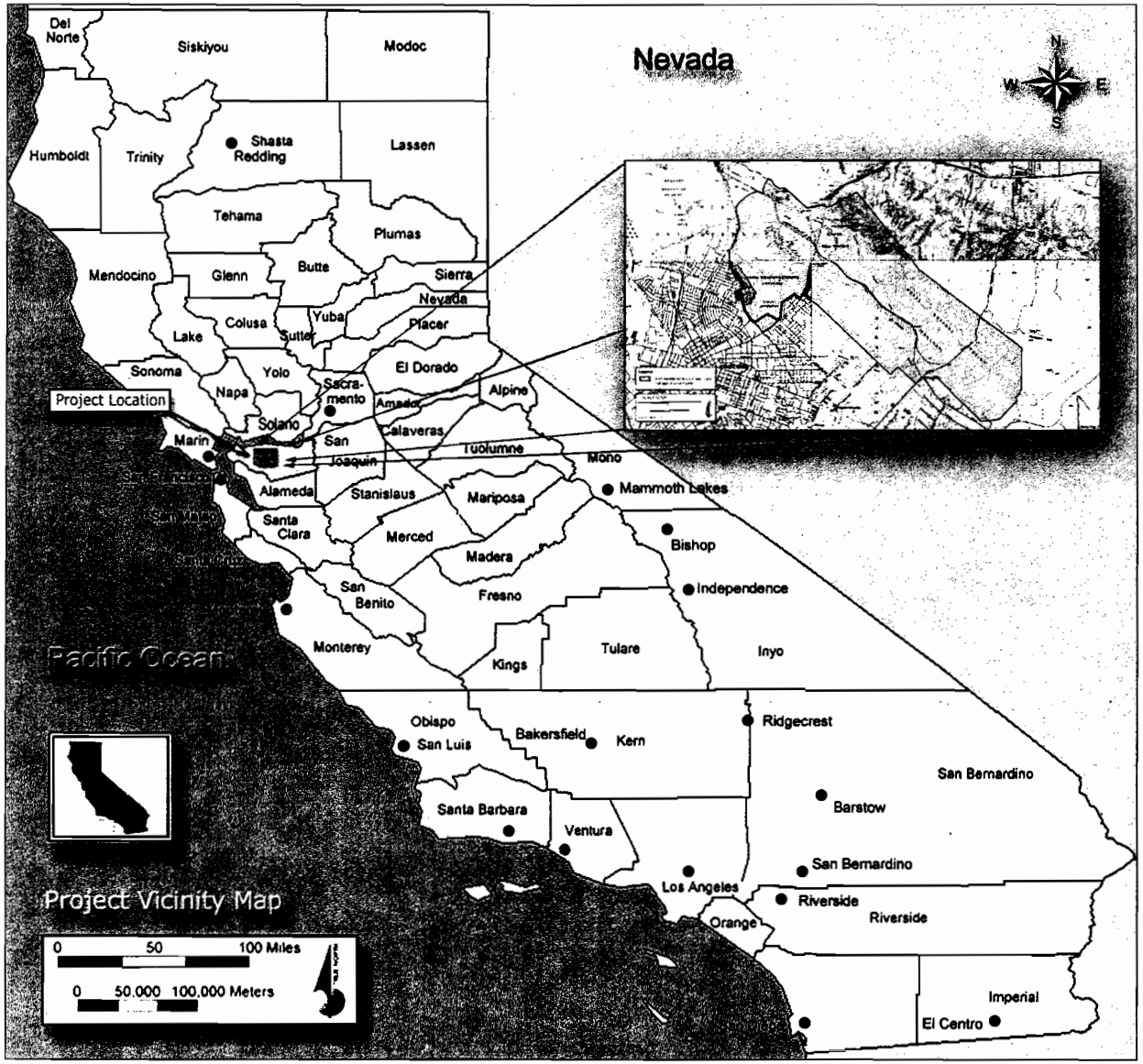
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

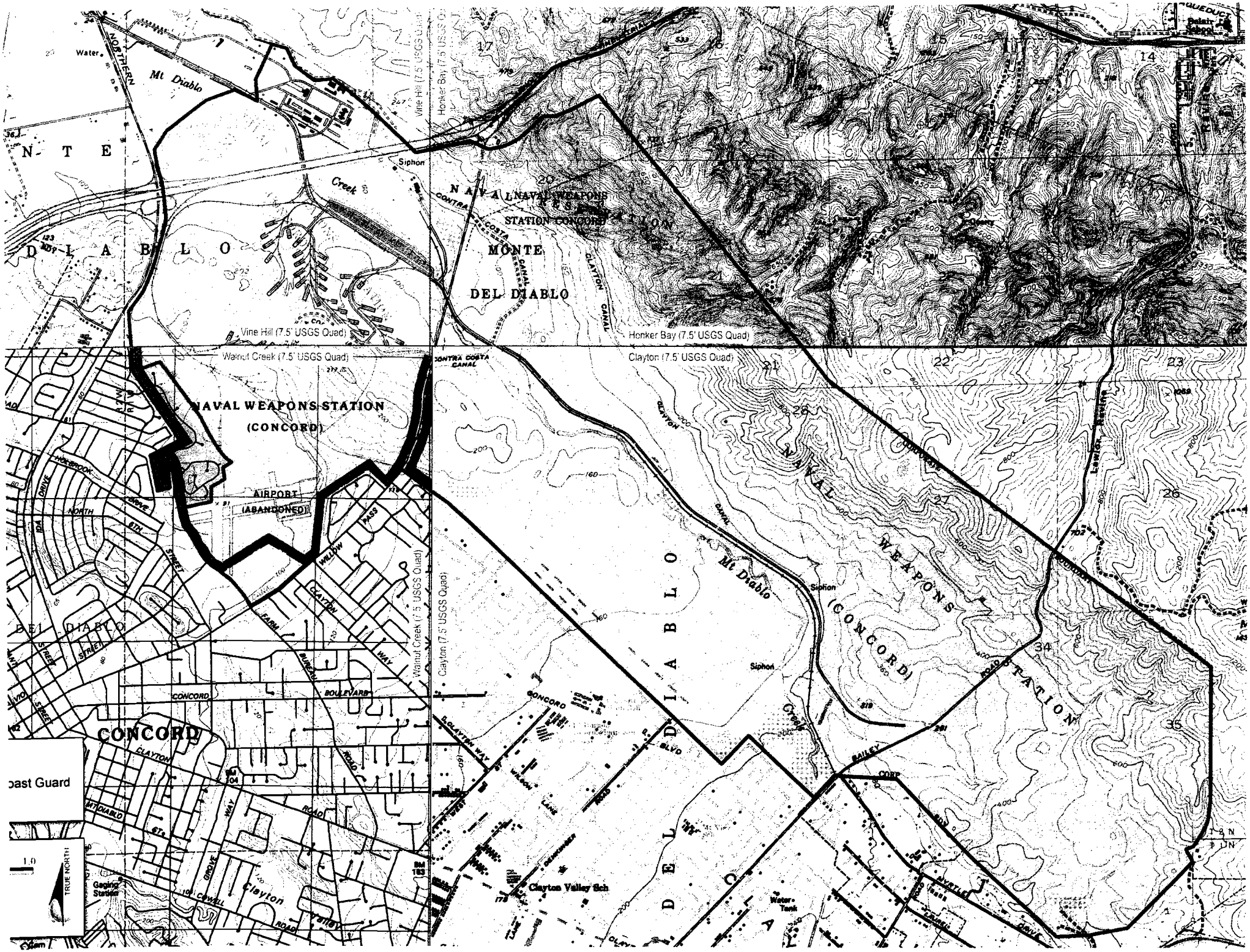
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacra-
mento
Alpine
Project Location
Amador
Solano
Calaveras
Marin
San
Joaquin
Tuolumne
Mono
Alameda
Stanislaus
Mariposa
Mammoth Lakes
Santa
Clara
Merced
Bishop
Madera
San
Benito
Fresno
Independence
Monterey
Kings
Tulare
Inyo
Pacific Ocean
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Orange
Riverside
Imperial
El Centro
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
CONCORD
CLAYTON
MONTE DEL DIABLO
DEL DIABLO
Mt Diablo
Siphon
Creek
CONTRA COSTA CANAL
CLAYTON CANAL
Clayton Valley Sch
Water Tank
Gaging Station
TRUE NORTH

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO: NAME AND ADDRESS (if different)

PERSONAL

_____
_____
_____
_____
_____

_____ _____
Signature Date Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

11011
Ser BPMOW.pjm/0745
07 AUG 2007

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrConsultingParties (Read Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0745
07 AUG 2007

The Ohlone Indian Tribe
Andrew Galvan
PO Box 3152
Mission San Jose, CA 94539

Dear Mr. Galvan:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We greatly appreciate any comments or concerns you may have regarding the project and would like to know whether you wish to participate as a consulting party per 36 CFR 800.2(c)(5). Enclosure 3 is provided to help you identify and address any concerns you

11011
Ser BPMOW.pjm/0745
07 AUG 2007

may have and to let us know if you would like to participate in the consultation. Return of this form does not limit your opportunity to participate at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

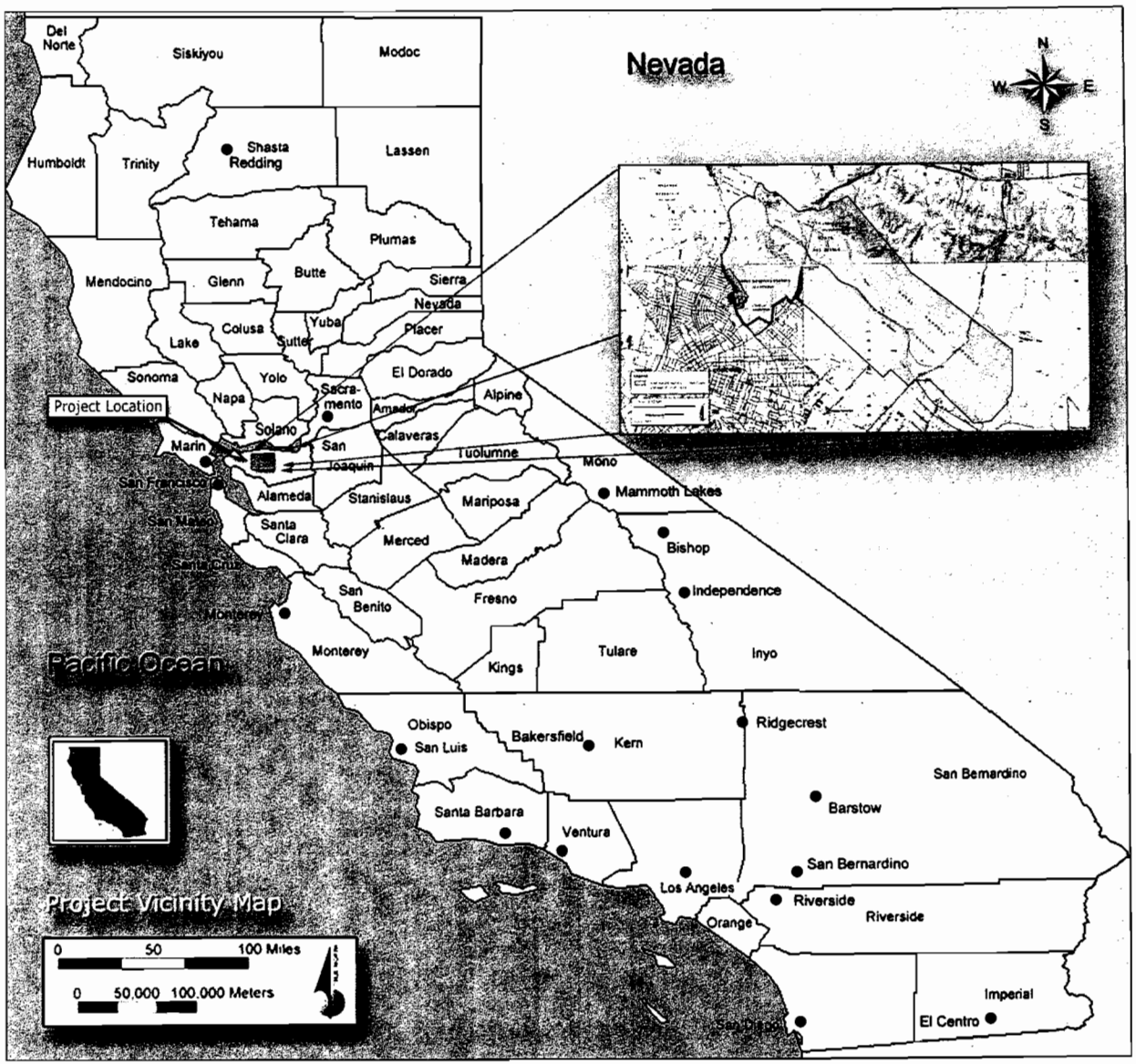
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

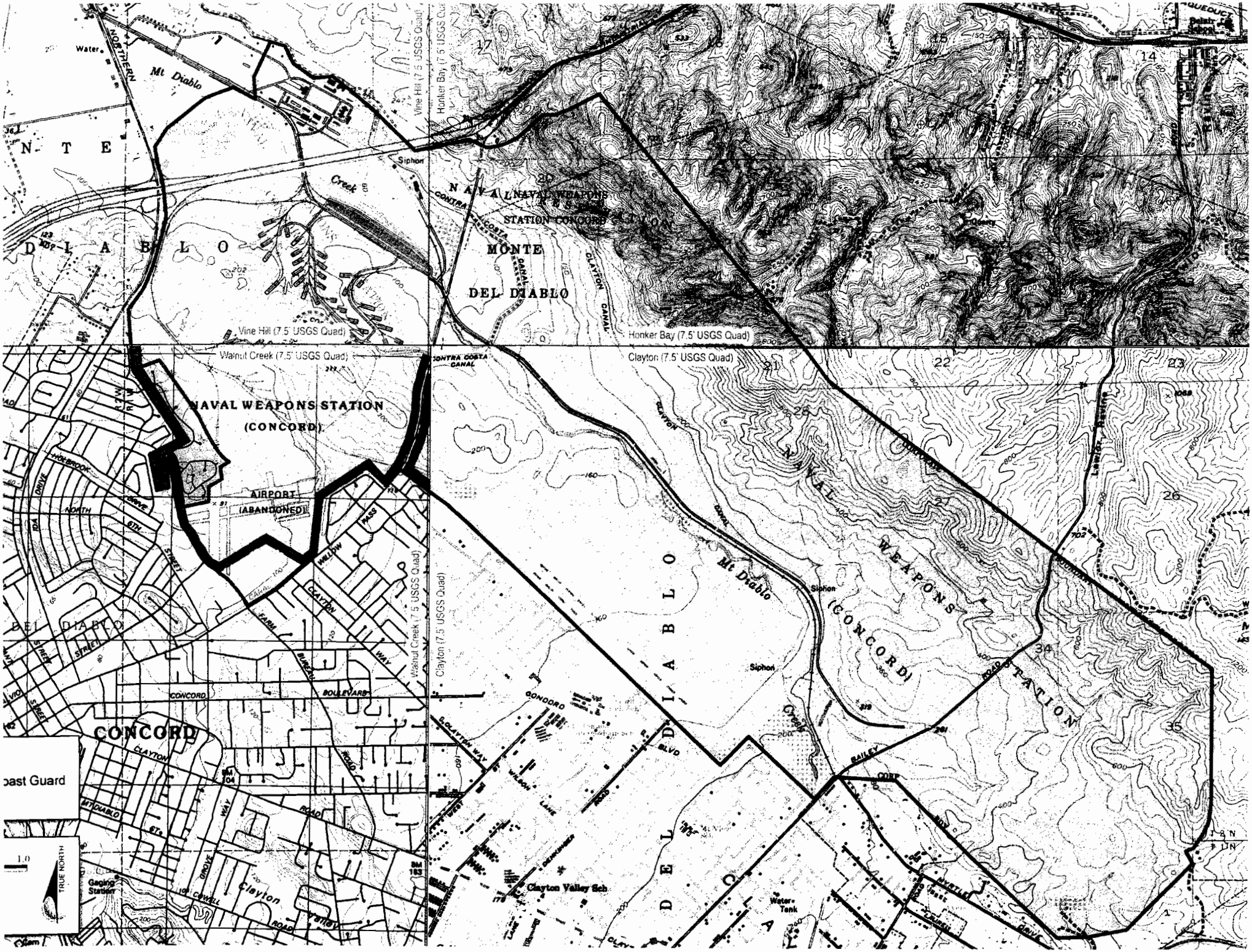
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Project Location
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacra-
mento
Amador
Alpine
Solano
Calaveras
Marin
San
Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
Mammoth Lakes
San Mateo
Santa
Clara
Merced
Bishop
Santa Cruz
Madera
San
Benito
Fresno
Independence
Monterey
Monterey
Kings
Tulare
Inyo
Pacific Ocean
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Orange
Riverside
Imperial
El Centro
San Diego
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
MONTE DEL DIABLO
CONCORD
Clayton
Clayton Valley Sch
Water Tank
Gaging Station
Siphon
Mt Diablo
CONTRA COSTA CANAL
CLAYTON CANAL
Creek
Water
TRUE NORTH
1.0

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO:

PERSONAL

NAME AND ADDRESS (if different)

_____
_____
_____
_____
_____

_____ _____
Signature Date Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

11011
Ser BPMOW.pjm/0745
07 AUG 2007

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrConsultingParties (Read Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0745
07 AUG 2007

Katherine Erolinda Perez
PO Box 717
Linden, CA 95236

Dear Ms. Perez:

The purpose of this letter is to inform you that the Department of Navy (DoN), Base Realignment and Closure (BRAC) Program Management Office plans to transfer approximately 5,032 acres of property from federal ownership at Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), located in Contra Costa County, California (Enclosure 1). The Inland Area of the base is being closed in accordance with the enacted BRAC 2005 recommendations. This undertaking primarily comprises of the disposal and reuse of the property. The undertaking could also include layaway, caretaker maintenance and potential interim leases. This undertaking and its effects are being considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and implementing regulations 36 CFR 800.

The APE for this undertaking is the approximate 5,032-acre parcel within the "Inland Area" at NAVWPNSTA Seal Beach Det Concord that is to be transferred from federal ownership (Enclosure 2).

This parcel, which is located entirely within the incorporated City of Concord, was deactivated in 1999 and declared surplus property by the DoN in March 2007. The City of Concord was designated as the Local Redevelopment Authority (LRA) by the Office of Economic Adjustment in 2005. The City of Concord, as the LRA, initiated the Concord Community Reuse Project (CCRP) to prepare a Redevelopment Plan for the site. The City of Concord is currently preparing the Redevelopment Plan, and determined that it will prepare an Environmental Impact Report in accordance with the California Environmental Quality Act to analyze the potential environmental impacts of alternatives developed through the CCRP. The DoN intends to prepare an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) once the LRA's Redevelopment Plan is completed. The DoN plans to assess the effects for this undertaking in conjunction with its EIS preparation.

While numerous cultural resources investigations have been conducted at NAVWPNSTA Seal Beach Det Concord, only a small portion of the property has been investigated archaeologically. Four archaeological resources (two prehistoric and two historic) have been recorded within the study area. These include Ca-CCo-680, P-07-000861, P-07-000485, and P-07-000860. Ca-CCo-680 consists of a sparse, albeit diverse, scatter of Native American artifacts (i.e. mortars and pestles, an antler wedge, a stone "chopper" and other flaked stone tools and debris) and dietary remains (i.e. mammal bone and marine and freshwater shellfish). A possible hearth feature and several pieces of human bone were also identified as the result of a small test excavation conducted in 1996. All of the material recovered during this work was reburied at the site. The second prehistoric site, P-07-000861, is a bedrock milling feature consisting of four mortar cups and a possible milling slick on a basalt outcrop. Historic archaeological resources include a corral/holding pen (P-07-000485) of undetermined age and a historical stone cistern (P-07-000860) that was built between 1932 and 1935 for use on the Ralph Bollman property and dairy.

All buildings and structures utilized by the DoN have been inventoried and evaluated (Self 1993; JRP Historical Consulting Services 1998) and none have been found to qualify for listing on the National Register of Historic Places (NRHP).

An archaeological investigation of the property is proposed to gather baseline cultural resources information early in the BRAC process for consideration in the reuse planning effort. ASM Affiliates, Inc. shall conduct the archaeological investigation of the entire 5,032 acre NAVWPNSTA Seal Beach Det Concord "Inland Area" study area that is part of this action. The investigation shall consist of a pedestrian (walkover) archaeological survey that incorporates vegetation clears designed to remove surface vegetation and improve surface visibility and overall survey effectiveness. The vegetation clears, conducted at various intervals along the survey transects, shall be no greater in size than 1m x 1m and generally not exceed 10cm in depth. No vegetation clears shall be conducted within the boundaries of the previously recorded archaeological sites. No artifacts shall be collected as part of this survey investigation. The survey is currently planned to take place in late August and September 2007. Additional cultural resources investigations will likely be needed in the future as redevelopment plans are refined.

We greatly appreciate any comments or concerns you may have regarding the project and would like to know whether you wish to participate as a consulting party per 36 CFR 800.2(c)(5). Enclosure 3 is provided to help you identify and address any concerns you

11011
Ser BPMOW.pjm/0745
07 AUG 2007

may have and to let us know if you would like to participate in the consultation. Return of this form does not limit your opportunity to participate at a later time. Please return the response form to our office at your convenience.

If you have any questions or comments, please contact Darrell Gundrum at (619) 532-3942 or at the address provided in Enclosure (3). Thank you for your time and consideration.

Sincerely,

JOHN M. HILL
Base Closure Manager
By direction of the Director

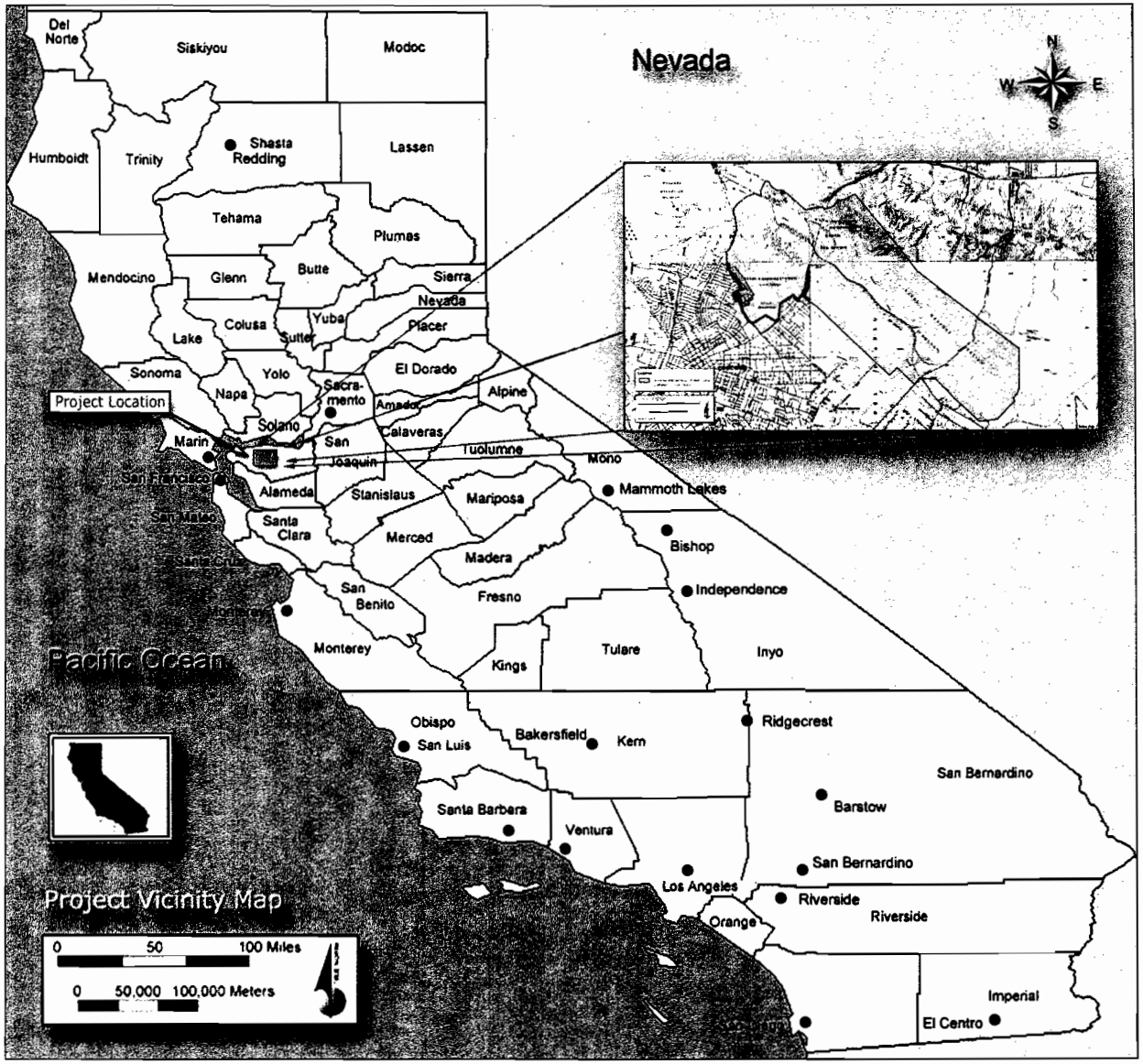
Enclosures: 1. Regional Location Map
2. Project Area
3. Project Response Form

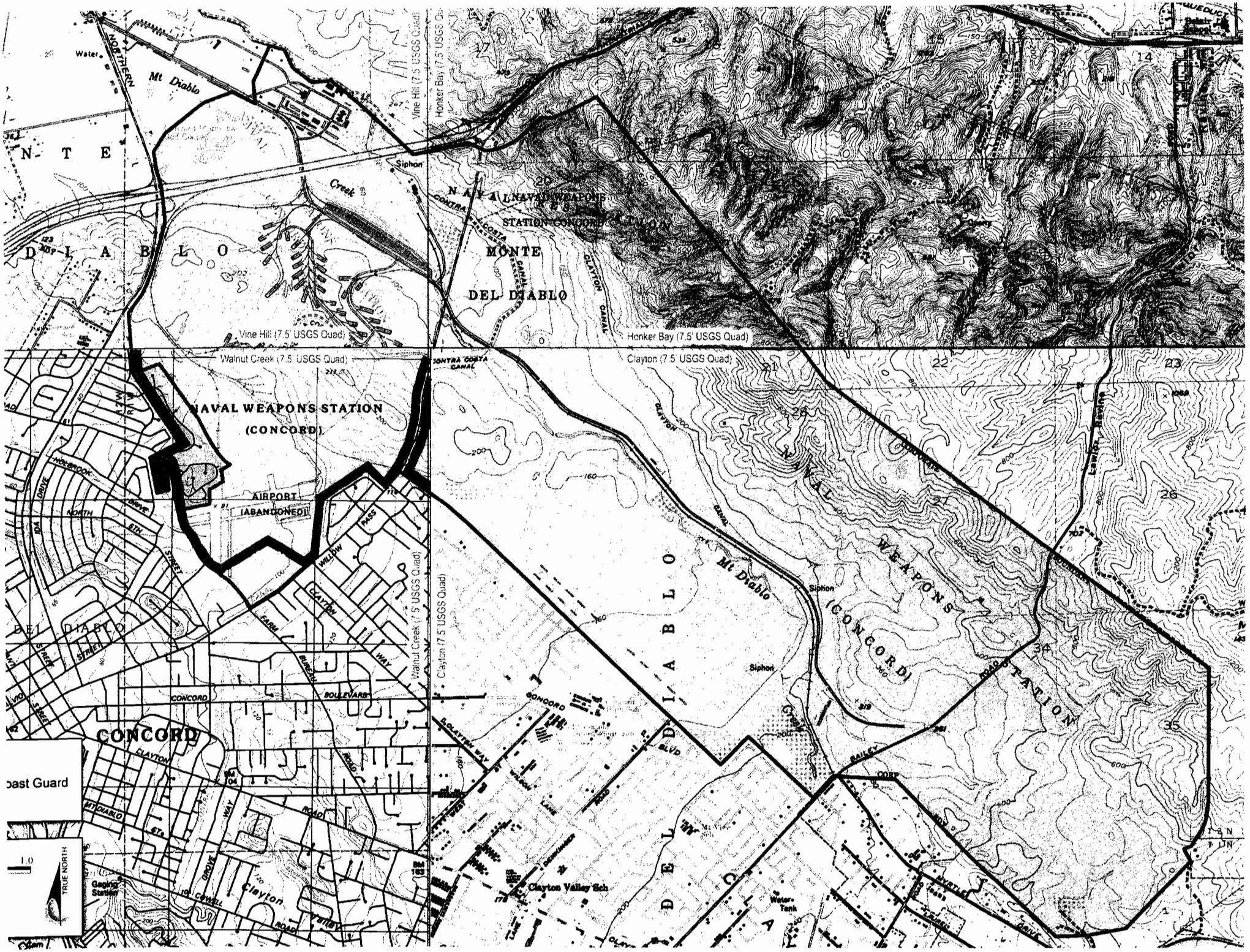
Copy to:
Michael Wright
City of Concord
1950 Parkside Drive
Concord, CA 94519-2578)

Darrell Gundrum (OPDE)
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

Lisa Bosalet (N45W)
Naval Weapons Station Seal Beach
800 Seal Beach Boulevard, Bldg. 110
Seal Beach, CA 90740-5000

Richard Pieper (N00DC)
Naval Weapons Station
Seal Beach Detachment Concord
Building IA1, Floor 1
Concord, CA 94520-5100


Nevada
N
W
E
S
Del Norte
Siskiyou
Modoc
Humboldt
Trinity
Shasta
Redding
Lassen
Tehama
Plumas
Mendocino
Glenn
Butte
Sierra
Nevada
Colusa
Yuba
Placer
Lake
Sutter
Sonoma
Yolo
El Dorado
Napa
Sacra-
mento
Alpine
Project Location
Amador
Solano
Marin
San
Calaveras
Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
Mammoth Lakes
San Mateo
Santa
Clara
Merced
Bishop
Madera
Santa Cruz
San
Benito
Fresno
Independence
Monterey
Pacific Ocean
Kings
Tulare
Inyo
Obispo
San Luis
Bakersfield
Kern
Ridgecrest
San Bernardino
Barstow
Santa Barbara
Ventura
San Bernardino
Los Angeles
Riverside
Riverside
Orange
Imperial
El Centro
Project Vicinity Map
0
50
100 Miles
0
50,000
100,000 Meters


Vine Hill (7.5' USGS Quad)
Honker Bay (7.5' USGS Quad)
Walnut Creek (7.5' USGS Quad)
Clayton (7.5' USGS Quad)
NAVAL WEAPONS STATION (CONCORD)
AIRPORT (ABANDONED)
CONCORD
MONTE DEL DIABLO
CONTRA COSTA CANAL
CLAYTON CANAL
Mt Diablo
Siphon
Creek
Water
Clayton Valley Sch
Water Tank
TRUE NORTH

Enclosure 3
Response Form
Base Realignment and Closure (BRAC) Project,
Naval Weapons Station Seal Beach Detachment Concord

_____ I/We have concerns and would like to be contacted. You can contact me at the following phone number: _____

_____ I/We do not have concerns.

_____ I/We have concerns.

Please provide any comments and/or concerns below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

****

CONTACT LETTER MAILED TO: NAME AND ADDRESS (if different)

PERSONAL

_____
_____
_____
_____
_____

_____ _____
Signature Date Signature Date

Please return completed form to:

Naval Facilities Engineering Command Southwest
ATTN: Darrell S. Gundrum, (Code OPDE.DG), Bldg. 131
1220 Pacific Highway
San Diego, CA 92132-5190
Phone (619) 532-3942
Fax (619) 532-1195

11011
Ser BPMOW.pjm/0745
07 AUG 2007

Blind copy to:
J. Hill
S. Moore
P. McCay
W. Thornton
E. Ewell
V. Willrich
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 08/03/07

Email/ConcordAPELtrConsultingParties (Read Only).doc

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5750
Ser BPMOW.els/0635
OCT 11 2012

Mr. Tristan Tozer
California Department of Parks and Recreation
Office of Historic Preservation (OHP)
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Mr. Tozer:

The purpose of this letter is to re-engage Section 106 consultation regarding the Navy's proposed Base Realignment and Closure (BRAC) transfer of Federal property at Naval Weapons Station Seal Beach (NWSSB) Detachment Concord ("former NWS Concord," hereafter), located in Contra Costa County, California (USN#070813A). The Navy is also concurrently re-engaging consultation with Federally-recognized Indian Tribes and other potentially-interested agencies and individuals. We invite you to participate in our first consultation meeting proposed for **Thursday, November 8, 2012 from 1:00-4:00PM in Concord, CA.** We also respectfully request a teleconference with appropriate SHPO staff in advance of the consultation meeting in order to discuss Navy's plans for consultation and seek preliminary input from SHPO on appropriate treatment for historic properties subject to the transfer. We anticipate that at least one prehistoric archaeological site containing human remains may be eligible for listing in the National Register of Historic Places (NRHP) and will be transferred out of Federal ownership. This letter summarizes Navy's prior consultation efforts and compliance actions to date, and outlines our plans for future consultation.

2007 Initiation of Consultation

In accordance with the enacted BRAC 2005 recommendations, the former NWS Concord was identified for closure and missions operationally ceased in 2008. Since that time, the Navy has transferred property to the U.S. Army and U.S. Coast Guard via Federal-to-Federal property transfers. The Navy is proposing to transfer the remaining portion of the "Inland Area" out of Federal ownership (Enclosure 1). The Navy initiated consultation on this undertaking with the California State Historic Preservation Office (SHPO) and other-potentially-interested parties on August 6, 2007 and requested concurrence on the determination of the undertaking's Area of Potential Effects (APE). The Navy defined the APE as the approximately 5,032-acre portion of the Inland Area proposed for transfer. The Navy received SHPO concurrence on the APE determination on September 12, 2007 (USN#070813A).

Section 106 Compliance Efforts Since 2007

Since 2007, the Navy has conducted an archaeological survey (2008), a historic building evaluation (2009), and most recently, the fieldwork for an archaeological evaluation (2012).

Identification and Evaluation of Archaeological Resources

In 2008, the Navy completed a Phase I intensive, pedestrian survey of the "Inland Area" (ASM Affiliates–Garcia-Herbst and Hale, 2008). The survey included systematic transects spaced at no more than 25-m intervals and generally oriented parallel to terrain. Rakes were used to clear 1x1-m areas of vegetation from the ground surface at minimum intervals of 100 meters except in locations of known archaeological resources and in portions of the survey area where the visibility was not encumbered by vegetation. Approximately 20 percent of the APE consisted of steeply sloped (>30 percent) upland regions that were subjected to a mixed survey strategy focusing on ridges, mid-slope terraces, and along watercourses where isolated milling stations and task specific sites might be encountered. The result of the survey was the identification and/or re-identification of a total of twenty-two archaeological sites and four archaeological isolates. These included the relocation of two prehistoric sites (CA-CCO-680, P-07-00861) and three historical archaeological sites (P-07-00860, P-07-000485, and P-07-2683); and the identification of seventeen new archaeological sites including one prehistoric site (CA-CCO-786) and sixteen historical archaeological sites. No artifacts were collected as part of the pedestrian survey.

Due to the potential to encounter human remains at prehistoric site CA-CCO-680, the Navy consulted with Federally-recognized Indian Tribes to develop a Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action under 43 CFR 10.5 prior to conducting a Phase II subsurface testing/evaluation program. To support implementation of the NAGPRA Plan of Action and to assist the Navy in identifying historic properties that may possess religious and cultural significance to Indian Tribes under 36 CFR 800.4(c)(1), the Navy invited representatives of the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians to participate as Native American Specialists for the Phase II evaluation.

On August 24, 2012, the Navy completed the fieldwork for the Phase II archaeological evaluation of the identified archaeological resources from the 2008 survey. This effort included a subsurface archaeological testing program at prehistoric sites CA-CCO-680,

CA-CCO-786, and P-07-00861 and historical archaeological site CA-CCO-791H. During fieldwork, human remains and NAGPRA funerary objects were encountered at CA-CCO-680. In accordance with the NAGPRA Plan of Action, all human remains and NAGPRA cultural items were reburied on site. Although the Navy's archaeological evaluation report is still in development, the Navy anticipates that CA-CCO-680 may be eligible for the National Register. Additional archaeological sites may also be identified as eligible during the preparation of and consultation concerning the archaeological evaluation report.

Given the limited potential for subsurface archaeological data to be present at the remaining historical archaeological sites, which primarily include above-ground features from the mid to late 19th and early 20th century ranching occupation (i.e. foundations, fence lines, wells, windmills, corrals, mine shafts, etc…), the Navy's archaeological evaluation report will also include a comprehensive historic, rural landscape evaluation of the remaining historic archaeological resources that were not tested.

Identification of Historic Resources

In 2009, the Navy conducted an evaluation of historic resources in the "Inland Area" proposed for transfer. The 2009 draft evaluation is titled "(DRAFT) *UPDATE REPORT*- Historic Building Inventory and Evaluation, Concord Naval Weapons Station, Contra Costa County, California" (JRP Historical Consulting Services, 2009) and provides an update to prior historic evaluations (William Self Associates, 1993; JRP Historical Consulting Services, 1998). The 2009 draft historic resources evaluation report inventoried and evaluated 422 buildings and structures and concludes that none meet the criteria for listing in the NRHP. The Navy has not yet consulted on the findings of this evaluation report, but the Navy anticipates that no buildings or structures within the APE will be eligible for the NRHP.

Plans for Future Consultation

As mentioned above, the Navy is re-engaging Section 106 consultation with SHPO and interested parties and is proposing a consultation meeting for the following date and time:

Section 106 Consultation Meeting for the former Naval Weapons Station, Concord
Thursday, November 8, 2012
1:00PM to 4:00PM
Concord Senior Center
2727 Parkside Circle
Concord, CA 94519

5750
Ser BPMOW.els/0635
OCT 11 2012

The purpose of this consultation meeting is to re-engage consultation on the Navy's undertaking and other reasonably-foreseeable effects of reuse, provide an overview of our plans for future consultation, and identify interested consulting parties. The Navy is concurrently contacting Federally-recognized Indian Tribes and potentially-interested parties to re-engage consultation and invite them to the proposed meeting (Enclosures 2 and 3). The Navy may also identify additional interested parties through the public participation components of the National Environmental Policy Act (NEPA) process.

Request for SHPO Assistance

In addition to requesting SHPO participation in our first Section 106 consultation meeting for this project, the Navy also respectfully requests a pre-meeting (via teleconference) with relevant SHPO staff to discuss Navy's plans for consultation and to seek preliminary input from SHPO on appropriate treatment alternatives for historic properties subject to transfer. Preliminary data indicates that at least one prehistoric archaeological site may be eligible and the Navy would like to explore a range of treatment alternatives to avoid, minimize, or mitigate adverse effects associated with the transfer and the reasonably-foreseeable effects of reuse. Specifically, we would like to discuss historic preservation covenants or other "adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance" as means to avoid the adverse effects of transfer out of Federal ownership, consistent with 36 CFR 800.5(a)(2)(vii).

Should you require additional information or wish to discuss further, please contact Ms. Erica Spinelli, Senior Cultural Resources Manager, at (619) 532-0980 or by email at erica.spinelli@navy.mil.

Sincerely,

KIMBERLY A. OSTROWSKI
Base Closure Manager
By direction of the Director

Enclosures: 1. Regional Location Map Depicting the "Inland Area" Proposed for Transfer
2. Consultation Letter to Federally-Recognized Indian Tribes
3. Consultation Letter to Potentially-Interested Parties



Installation Boundary

Tidal Area

Inland Area

Basemap Source: ESRI, USGS, DeLorme, TANA, FAO

TETRA TECH EM, INC.

FORMER NAVAL WEAPONS STATION
SEAL BEACH DETACHMENT CONCORD

ENCLOSURE 1

REGIONAL LOCATION MAP

2011-11-22 v:\concord\projects\014_archaeologicalsites_nagpra\regional_vicinity.mxd TtEMI-AL simon.cardinale

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5750
Ser BPMOW.els/0634
OCT 11 2012

Ms. Silvia Burley, Chairperson
California Valley Miwok Tribe
10601 N. Escondido Place
Stockton, CA 95212

Ms. Yvonne Miller, Chairperson
Ione Band of Miwok Indians
9252 Bush Street, Suite 3
Plymouth, CA 95669

Mr. Nick H. Fonseca, Chairman
Shingle Springs Band of Miwok Indians
5281 Honpie Road
Placerville, CA 95667

Dear Chairperson Burley, Chairperson Miller, and Chairman Fonseca:

The Navy is re-engaging consultation under Section 106 of the National Historic Preservation Act (NHPA) regarding the Navy's proposed Base Realignment and Closure (BRAC) transfer of Federal property at Naval Weapons Station Seal Beach (NWSSB) Detachment Concord, located in Contra Costa County, California ("former NWS Concord," hereafter) (Enclosure 1). We are contacting you because your tribes participated in our recent Native American Graves Protection and Repatriation Act (NAGPRA) consultation in support of the Navy's archaeological evaluation at the former NWS Concord. This letter summarizes Navy's prior Section 106 consultation efforts and compliance actions to date, and outlines our plans for future consultation. We invite you to attend the first Section 106 consultation meeting proposed for **Thursday, November 8, 2012 from 1:00-4:00PM** in Concord, CA. As requested below, please contact us to indicate your interest **by no later than Friday, October 19, 2012.**

2007 Initiation of Consultation

In accordance with the enacted BRAC 2005 recommendations, the former NWS Concord was identified for closure and missions operationally ceased in 2008. Since that time, the Navy has transferred property to the U.S. Army and U.S. Coast Guard via Federal-to-Federal property transfers. The Navy is proposing to transfer the remaining portion of the "Inland Area" out of Federal ownership (Enclosure 1). The Navy initiated consultation on this undertaking with the California State Historic Preservation Office (SHPO) and other-potentially-interested parties on August 6, 2007 and requested SHPO concurrence on the determination of the undertaking's Area of Potential Effects (APE). The Navy defined the APE as the

approximately 5,032-acre portion of the Inland Area proposed for transfer. The Navy received SHPO concurrence on the APE determination on September 12, 2007 (USN#070813A).

Section 106 Compliance Efforts Since 2007

Since 2007, the Navy has conducted an archaeological survey (2008), a historic building evaluation (2009), and most recently, the fieldwork for an archaeological evaluation (2012).

Identification and Evaluation of Archaeological Resources

In 2008, the Navy completed a Phase I intensive, pedestrian survey of the "Inland Area" (ASM Affiliates-Garcia-Herbst and Hale, 2008). The result of the survey was the identification and/or re-identification of a total of twenty-two archaeological sites and four archaeological isolates. These included the relocation of two prehistoric sites (CA-CCO-680, P-07-00861) and three historical archaeological sites (P-07-00860, P-07-000485, and P-07-2683); and the identification of seventeen new archaeological sites including one prehistoric site (CA-CCO-786) and sixteen historical archaeological sites. No artifacts were collected as part of the pedestrian survey.

Due to the potential to encounter human remains at prehistoric site CA-CCO-680, the Navy consulted with Federally-recognized Indian Tribes (including your Tribes) to develop a Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action under 43 CFR 10.5 prior to conducting a Phase II subsurface testing/evaluation program. To support implementation of the NAGPRA Plan of Action and to assist the Navy in identifying historic properties that may possess religious and cultural significance to Indian Tribes under 36 CFR 800.4(c)(1), the Navy invited representatives of the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians to participate as Native American Specialists for the Phase II evaluation.

On August 24, 2012, the Navy completed the fieldwork for a Phase II archaeological evaluation of the identified archaeological resources from the 2008 survey. This effort included a subsurface archaeological testing program at prehistoric sites CA-CCO-680, CA-CCO-786, and P-07-00861 and historical archaeological site CA- CCO-791H. During fieldwork, human remains and NAGPRA funerary objects were encountered at CA-CCO-680. In accordance with the NAGPRA Plan of Action, all human remains and NAGPRA cultural items were reburied on site. Although the Navy's archaeological evaluation report is still in development, the Navy anticipates that CA-CCO-680 may be eligible

for the National Register. Additional archaeological sites may also be identified as eligible during the preparation of and consultation concerning the archaeological evaluation report.

Given the limited potential for subsurface archaeological data to be present at the remaining historical archaeological sites, which primarily include above-ground features from the mid to late 19th and early 20th century ranching occupation (i.e. foundations, fence lines, wells, windmills, corrals, mine shafts, etc…), the Navy's archaeological report will also include a comprehensive historic, rural landscape evaluation of the remaining historic archaeological resources that were not tested.

Identification and Evaluation of Historic Resources

In 2009, the Navy conducted an updated evaluation of historic resources in the Inland Area proposed for transfer. The 2009 evaluation report is titled "(DRAFT) *UPDATE REPORT*- Historic Building Inventory and Evaluation, Concord Naval Weapons Station, Contra Costa County, California" (JRP Historical Consulting Services, 2009) and provides an update to prior historic evaluations (William Self Associates, 1993; JRP Historical Consulting Services, 1998). The report inventoried and evaluated 422 buildings and structures and concludes that none meet the criteria for listing in the NRHP. In order to finalize the evaluation of historic resources, the Navy will be consulting with SHPO and interested parties on the 2009 draft report.

Plans for Future Consultation

As mentioned above, the Navy is re-engaging Section 106 consultation with SHPO and potentially-interested parties and is proposing a consultation meeting for the following date and time:

Section 106 Consultation Meeting for the former Naval Weapons Station, Concord
Thursday, November 8, 2012
1:00PM to 4:00PM

Concord Senior Center
2727 Parkside Circle
Concord, CA 94519

The purpose of this consultation meeting is to re-engage consultation on the Navy's undertaking and other reasonably-foreseeable effects of reuse, provide an overview of our plans for

future consultation, and identify interested consulting parties. Via separate correspondence, the Navy is concurrently re-engaging consultation with SHPO and other potentially-interested parties (Enclosure 2).

Indicating Interest in the Section 106 Consultation

Based upon your tribe's participation in the NAGPRA consultation, we assume that your tribes will be interested in participating in the Section 106 consultation concerning the proposed transfer of the former NWS Concord. To confirm your tribe's interest in the consultation, please email Ms. Erica Spinelli (erica.spinelli@navy.mil) , Senior Cultural Resources Manager, by no later than Friday, October 19, 2012. In your email, please confirm:

1. Whether your tribe is interested in participating in the Section 106 consultation concerning the proposed transfer of the former NWS Concord;
2. Whether representatives of your tribe plan to attend the November 8, 2012 meeting;
3. How many representatives of your tribe plan to attend the November 8, 2012 meeting;
4. Whether your tribe is interested in historic resources, archaeological resources, or both;
5. Contact information for your tribal representatives including name(s), email address(es), telephone number(s), and mailing address(es) so that we may contact your representatives during our consultation.

Should you have any questions, or require additional information, please contact Ms. Erica Spinelli, Senior Cultural Resources Manager, at (619) 532-0980 or by email at erica.spinelli@navy.mil.

Sincerely,

KIMBERLY A. OSTROWSKI
Base Closure Manager
By direction of the Director

Enclosures: 1. Regional Location Map Depicting the "Inland Area" Proposed for Transfer
2. Distribution List of Potentially-Interested Agencies, Organizations, and Individuals

ENCLOSURE 2

Distribution List of Potentially-Interested Agencies, Organizations, Individuals

Proposed Property Recipients
City of Concord
East Bay Regional Park District
Contra Costa County
California Department of Transportation (Caltrans)
California State University, East Bay Campus

Federally- Recognized "Indian Tribes"
California Valley Miwok Tribe
Ione Band of Miwok Indians
Shingle Springs Band of Miwok Indians

Other Potentially-Interested Parties
Katherine Erolinda Perez
Ohlone Indian Tribe
Trina Marine Ruano Family
Amah/Mutsun Tribal Band
Indian Canyon Mutsun Band
Muwekma Ohlone Tribe of San Francisco Bay Area
Concord Historical Society
Contra Costa County Historical Society
Save Mt. Diablo

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5750
Ser BPMOW.els/0633
OCT 1 1 2012

Dear Potentially-Interested Parties:

The Navy is re-engaging consultation under Section 106 of the National Historic Preservation Act (NHPA) regarding the Navy's proposed Base Realignment and Closure (BRAC) transfer of Federal property at Naval Weapons Station Seal Beach (NWSSB) Detachment Concord, located in Contra Costa County, California ("former NWS Concord," hereafter) (Enclosure 1). We are contacting agencies, organizations, and individuals that may have an interest in archaeological or historic resources at the former NWS Concord (Enclosure 2). This letter summarizes Navy's prior consultation efforts and compliance actions to date, and outlines our plans for future consultation. Should you be interested in participating in this Section 106 consultation, we invite you to attend the first consultation meeting proposed for **Thursday, November 8, 2012 from 1:00-4:00PM** in Concord, CA. As requested below, please contact us to indicate your interest in this consultation **by no later than Friday, October 19, 2012.**

2007 Initiation of Consultation

In accordance with the enacted BRAC 2005 recommendations, the former NWS Concord was identified for closure and was operationally closed in 2008. Since that time, the Navy has transferred property to the U.S. Army and U.S. Coast Guard via Federal-to-Federal property transfers. The Navy is proposing to transfer the remaining portion of the "Inland Area" out of Federal ownership (Enclosure 1). The Navy initiated consultation on this undertaking with the California State Historic Preservation Office (SHPO) and other-potentially-interested parties on August 6, 2007 and requested SHPO concurrence on the determination of the undertaking's Area of Potential Effects (APE). The Navy defined the APE as the approximately 5,032-acre portion of the "Inland Area" proposed for transfer. The Navy received SHPO concurrence on the APE determination on September 12, 2007 (USN#070813A).

Section 106 Compliance Efforts Since 2007

Since 2007, the Navy has conducted an archaeological survey (2008), a historic building evaluation (2009), and most recently, the fieldwork for an archaeological evaluation (2012).

Identification and Evaluation of Archaeological Resources

In 2008, the Navy completed a Phase I intensive, pedestrian survey of the "Inland Area" (ASM Affiliates-Garcia-Herbst and Hale, 2008).

The result of the survey was the identification and/or re-identification of a total of twenty-two archaeological sites and four archaeological isolates. These included the relocation of two prehistoric sites (CA-CCO-680, P-07-00861) and three historical archaeological sites (P-07-00860, P-07-000485, and P-07-2683); and the identification of seventeen new archaeological sites including one prehistoric site (CA-CCO-786) and sixteen historical archaeological sites. No artifacts were collected as part of pedestrian survey. Due to the potential to encounter human remains at prehistoric site CA-CCO-680, the Navy consulted with Federally-recognized Indian Tribes to develop a Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action under 43 CFR 10.5. prior to conducting a Phase II subsurface testing/evaluation program. To support implementation of the NAGPRA Plan of Action and to assist the Navy in identifying historic properties that may possess religious and cultural significance to Indian Tribes under 36 CFR 800.4(c) (1), the Navy invited representatives of the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians to participate as Native American Specialists for the Phase II evaluation.

On August 24, 2012, the Navy completed the fieldwork for a Phase II archaeological evaluation of the identified archaeological resources from the 2008 survey. This effort included a subsurface archaeological testing program at prehistoric sites CA-CCO-680, CA-CCO-786, and P-07-00861 and historical archaeological site CA- CCO-791H. During fieldwork, human remains and NAGPRA funerary objects were encountered at CA-CCO-680. In accordance with the NAGPRA Plan of Action, all human remains and NAGPRA cultural items were reburied on site. Although the Navy's archaeological evaluation report is still in development, the Navy anticipates that CA-CCO-680 may be eligible for the National Register. Additional archaeological sites may also be identified as eligible during the preparation of and consultation concerning the archaeological evaluation report.

Given the limited potential for subsurface archaeological data to be present at the remaining historical archaeological sites, which primarily include above-ground features from the mid to late 19th and early 20th century ranching occupation (i.e. foundations, fence lines, wells, windmills, corrals, mine shafts, etc…), the Navy's archaeological report will also include a comprehensive historic, rural landscape evaluation of the remaining historic archaeological resources that were not tested.

Identification and Evaluation of Historic Resources

In 2009, the Navy conducted an updated evaluation of historic resources in the Inland Area proposed for transfer. The 2009 evaluation report is titled "(DRAFT) *UPDATE REPORT- Historic* Building Inventory and Evaluation, Concord Naval Weapons Station, Contra Costa County, California" (JRP Historical Consulting Services, 2009) and provides an update to prior historic evaluations (William Self Associates, 1993; JRP Historical Consulting Services, 1998). The report inventoried and evaluated 422 buildings and structures and concludes that none meet the criteria for listing in the NRHP. In order to finalize the evaluation of historic resources, the Navy will be consulting with SHPO and interested parties on the 2009 draft report.

Plans for Future Consultation

As mentioned above, the Navy is re-engaging Section 106 consultation with SHPO and potentially-interested parties and is proposing a consultation meeting for the following date and time:

Section 106 Consultation Meeting for the former Naval Weapons Station, Concord
Thursday, November 8, 2012
1:00PM to 4:00PM

Concord Senior Center
2727 Parkside Circle
Concord, CA 94519

The purpose of this consultation meeting is to re-engage consultation on the Navy's undertaking and other reasonably-foreseeable effects of reuse, provide an overview of our plans for future consultation, and identify interested consulting parties. Via separate correspondence, the Navy is concurrently re-engaging consultation with SHPO and with Federally-recognized Indian Tribes.

Indicating Interest in the Section 106 Consultation

Should you be interested in participating in the Section 106 consultation concerning the proposed transfer of the former NWS Concord, please email Ms. Erica Spinelli (erica.spinelli@navy.mil) , Senior Cultural Resources Manager, by no later than Friday, October 19, 2012. In your email, please indicate:

5750
Ser BPMOW.els/0633
OCT 11 2012

1. Whether you or your agency/organization is interested in participating in the Section 106 consultation concerning the proposed transfer of the former NWS Concord;
2. Whether you or representatives of your agency/organization plan to attend the November 8, 2012 meeting;
3. How many representatives of your agency/organization plan to attend the November 8, 2012 meeting;
4. Whether you or your agency/organization is interested in historic resources, archaeological resources, or both;
5. Your name, your agency/organization (if applicable), email address, telephone number, and mailing address so that we may contact you during our consultation.

Should you have any questions, or require additional information, please contact Ms. Erica Spinelli, Senior Cultural Resources Manager, at (619) 532-0980 or by email at erica.spinelli@navy.mil.

Sincerely,

KIMBERLY A. OSTROWSKI
Base Closure Manager
By direction of the Director

Enclosures: 1. Regional Location Map Depicting the "Inland Area" Proposed for Transfer
2. Distribution List of Potentially-Interested Agencies, Organizations, and Individuals

ENCLOSURE 2

Distribution List of Potentially-Interested Agencies, Organizations, Individuals

Proposed Property Recipients
City of Concord
East Bay Regional Park District
Contra Costa County
California Department of Transportation (Caltrans)
California State University, East Bay Campus

Federally- Recognized "Indian Tribes"
California Valley Miwok Tribe
Ione Band of Miwok Indians
Shingle Springs Band of Miwok Indians

Other Potentially-Interested Parties
Katherine Erolinda Perez
Ohlone Indian Tribe
Trina Marine Ruano Family
Amah/Mutsun Tribal Band
Indian Canyon Mutsun Band
Muwekma Ohlone Tribe of San Francisco Bay Area
Concord Historical Society
Contra Costa County Historical Society
Save Mt. Diablo

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.els/0049A
JAN 30 2013

Dear Consulting Parties:

The Navy seeks your input on the findings of the enclosed *Draft Historic Building Inventory and Evaluation Update Report, Inland Area, Concord Naval Weapons Station, Contra Costa County, California* (December, 2012) ("Draft Historic Evaluation Report," hereafter) (Enclosure (1)). As discussed at our November 18, 2012 consultation meeting, the Draft Historic Evaluation Report was prepared to support Navy's compliance with Section 106 for the proposed Base Realignment and Closure (BRAC) transfer at Naval Weapons Station Seal Beach (NWSSB) Detachment Concord ("former NWS Concord," hereafter), located in Contra Costa County, California (SHPO Reference: USN070813A). Specifically, the Draft Historic Evaluation Report aims to identify whether there are historic buildings or structures located within the Area of Potential Effect (APE) (Inland Area of the former NWS Concord proposed for transfer). We respectfully request your input on our report's findings within 30 days, or **by March 1, 2013.** Via this correspondence, the Navy is concurrently seeking and considering the input of the consulting parties identified in the distribution list included in Enclosure (2). Via separate correspondence, the Navy is additionally seeking the concurrence of the State Historic Preservation Officer (SHPO).

The enclosed Draft Historic Evaluation Report provides an update to two previous Navy evaluation reports: one for World War II-era buildings and structures (Self and Associates, 1993) and one for Cold War-era resources (JRP, 1998). Taken together, the Self and Associates and JRP evaluations concluded that none of the Navy's buildings or structures within the Inland Area were eligible for the NRHP. The Navy consulted on these studies and received SHPO concurrence on both in the 1990s. The enclosed Draft Historic Evaluation Report re-affirms the findings of the two previous studies and confirms that the passage of time has not affected the eligibility status of resources that were less than 50 years of age at the time of their initial evaluation. Overall, the enclosed Draft Historic Evaluation Report concludes that none of the 422 historic buildings or structures evaluated is eligible for listing in the National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR), either individually or as part of a historic district.

The evaluation of NRHP/CRHR eligibility for buildings and structures within the APE is included in Chapter 4 of the enclosed report, with overall conclusions provided at the end of that chapter. Department of Parks Recreation (DPR) 523 site forms in Appendix B record the resources and provide resource-specific evaluations of NRHP/CRHR eligibility. Similar resources are grouped together by function or by general area on these DPR 523 site forms. Appendix A, Table 1 can assist the reader in identifying DPR 523 site forms of interest: Table 1 provides a list of all evaluated resources by Navy Building Number / Function and indicates which DPR 523 form addresses each resource. Appendix B then contains a large-format map of the APE/Inland Area, followed by the DPR 523 forms in alphabetical order by Resource Name (located in the top right corner of the form).

Additionally, it is important to note that the Contra Costa Canal (including its subsidiary, the Clayton Canal) is located within the APE and is a historic property eligible for the NRHP/CRHR as determined by consensus with SHPO on March 9, 2005 (SHPO Reference: FHWA050131A). Portions of the Contra Costa Canal and Clayton Canal are located within the Navy's APE and are resources owned by the US Bureau of Reclamation and operated by the Contra Costa Water District. Therefore, via the correspondence included in Enclosure 3, the Navy is inviting the USBR and CCWD to participate in this Section 106 consultation. The enclosed Historic Evaluation Report evaluates bridges and culverts associated with the Contra Costa Canal, but the Navy's report does not re-evaluate the Contra Costa Canal or Clayton Canal.

We respectfully request your input on the findings of the enclosed report within 30 days, or **by no later than March 1, 2013.** You will soon receive an email providing an electronic version of a "consulting party comment form." To expedite our response to comments, we respectfully request that you submit your organization's comments in the provided comment matrix and via email to Ms. Erica Spinelli (erica.spinelli@navy.mil) by March 1, 2013.

5090
Ser BPMOW.els/0049A
JAN 30 2013

Should you have any questions or need additional information, please contact Ms. Erica Spinelli, Senior Cultural Resources Manager, at (619) 532-0980 or by email at erica.spinelli@navy.mil.

Sincerely,

Janet M. Lear (acting)
KIMBERLY A. OSTROWSKI
Base Closure Manager
By direction of the Director

Enclosures: 1. *Draft Historic Building Inventory and Evaluation Update Report, Inland Area, Concord Naval Weapons Station, Contra Costa County, California* (December, 2012) (Report provided on CD)
2. Distribution List of Consulting Parties

Copy to: (w/o encl)
Mr. George Herbst, Archaeologist
Naval Facilities Engineering Command, Southwest
1220 Pacific Highway, Code EV5.GH
San Diego, CA 92132

ENCLOSURE 2

Distribution List of Consulting Parties

Proposed Property Recipients
City of Concord
East Bay Regional Park District
Contra Costa County Fire Protection District

Federally-Recognized Indian Tribes
California Valley Miwok Tribe
Ione Band of Miwok Indians
Shingle Springs Band of Miwok Indians

Other Potentially-Interested Parties
Trina Marine Ruano Family
Concord Historical Society
Save Mt. Diablo
United States Bureau of Reclamation (via separate correspondence)
Contra Costa Water District (via separate correspondence)

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.els/0049
JAN 30 2013

Mr. Tristan Tozer
California Department of Parks and Recreation
Office of Historic Preservation (OHP)
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Mr. Tozer:

The Navy seeks State Historic Preservation Officer (SHPO) concurrence on the findings of the enclosed *Draft Historic Building Inventory and Evaluation Update Report, Inland Area, Concord Naval Weapons Station, Contra Costa County, California* (December, 2012) ("Draft Historic Evaluation Report," hereafter) (Enclosure (1)). As discussed at our November 18, 2012 consultation meeting, the Draft Historic Evaluation Report was prepared to support Navy's compliance with Section 106 for the proposed Base Realignment and Closure (BRAC) transfer at Naval Weapons Station Seal Beach (NWSSB) Detachment Concord ("former NWS Concord," hereafter), located in Contra Costa County, California (SHPO Reference: USN070813A). Specifically, the Draft Historic Evaluation Report aims to identify whether there are historic buildings or structures located within the Area of Potential Effect (APE) (Inland Area of the former NWS Concord proposed for transfer). We respectfully request your concurrence on our report's findings within 30 days, or **by March 1, 2013.** Via separate correspondence, the Navy is also concurrently seeking and considering the input of the consulting parties identified in the distribution list included in Enclosure (2).

The enclosed Draft Historic Evaluation Report provides an update to two previous Navy evaluation reports: one for World War II-era buildings and structures (Self and Associates, 1993) and one for Cold War-era resources (JRP, 1998). Taken together, the Self and Associates and JRP evaluations concluded that none of the Navy's buildings or structures within the Inland Area were eligible for the NRHP. The Navy consulted on these studies and received SHPO concurrence on both in the 1990s. The enclosed Draft Historic Evaluation Report re-affirms the findings of the two previous studies and confirms that the passage of time has not

affected the eligibility status of resources that were less than 50 years of age at the time of their initial evaluation. Overall, the enclosed Draft Historic Evaluation Report concludes that none of the 422 historic buildings or structures evaluated is eligible for listing in the National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR), either individually or as part of a historic district.

The evaluation of NRHP/CRHR eligibility for buildings and structures within the APE is included in Chapter 4 of the enclosed report, with overall conclusions provided at the end of that chapter. Department of Parks Recreation (DPR) 523 site forms in Appendix B record the resources and provide resource-specific evaluations of NRHP/CRHR eligibility. Similar resources are grouped together by function or by general area on these DPR 523 site forms. Appendix A, Table 1 can assist the reader in identifying DPR 523 site forms of interest: Table 1 provides a list of all evaluated resources by Navy Building Number / Function and indicates which DPR 523 form addresses each resource. Appendix B then contains a large-format map of the APE/Inland Area, followed by the DPR 523 forms in alphabetical order by Resource Name (located in the top right corner of the form).

Additionally, it is important to note that the Contra Costa Canal (including its subsidiary, the Clayton Canal) is located within the APE and is a historic property eligible for the NRHP/CRHR as determined by consensus with SHPO on March 9, 2005 (SHPO Reference: FHWA050131A). Portions of the Contra Costa Canal and Clayton Canal are located within the Navy's APE and are resources owned by the US Bureau of Reclamation and operated by the Contra Costa Water District. Therefore, via the correspondence included in Enclosure 3, the Navy is inviting the USBR and CCWD to participate in this Section 106 consultation. The enclosed Historic Evaluation Report evaluates bridges and culverts associated with the Contra Costa Canal, but the Navy's report does not re-evaluate the Contra Costa Canal or Clayton Canal.

5090
Ser BPMOW.els/0049
JAN 30 2013

We respectfully request SHPO concurrence on the findings of the enclosed report within 30 days, or **by no later than March 1, 2013.** Please send your comments/concurrence to Ms. Erica Spinelli, Senior Cultural Resources Manager, at the address above. Should you have any questions or need additional information, please contact Ms. Erica Spinelli at (619) 532-0980 or by email at erica.spinelli@navy.mil.

Sincerely,

Janet M Lear (acting)

KIMBERLY A. OSTROWSKI
Base Closure Manager
By direction of the Director

Enclosures: 1. *Draft Historic Building Inventory and Evaluation Update Report, Inland Area, Concord Naval Weapons Station, Contra Costa County, California* (December, 2012) (1 hard copy / 1 CD)
2. Copy of Consultation Letter to Consulting Parties
3. Copy of Consultation Letter to US Bureau of Reclamation and Contra Costa Water District

Copy to: (w/o encl)
Mr. George Herbst, Archaeologist
Naval Facilities Engineering Command, Southwest
1220 Pacific Highway, Code EV5.GH
San Diego, CA 92132

ENCLOSURE 2

Distribution List of Consulting Parties

Proposed Property Recipients
City of Concord
East Bay Regional Park District
Contra Costa County Fire Protection District

Federally-Recognized Indian Tribes
California Valley Miwok Tribe
Ione Band of Miwok Indians
Shingle Springs Band of Miwok Indians

Other Potentially-Interested Parties
Trina Marine Ruano Family
Concord Historical Society
Save Mt. Diablo
United States Bureau of Reclamation (via separate correspondence)
Contra Costa Water District (via separate correspondence)

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.els/0049B
JAN 30 2013

Ms. Anastasia Leigh
United States Bureau of Reclamation
Environmental Compliance Office, MP 150
2800 Cottage Way
Sacramento CA 95825-1898

Mr. Mark Seedall
Principal Planner
Contra Costa Water District
P.O. Box H2O
Concord, CA 94524-2099

Dear Ms. Leigh and Mr. Seedall:

As discussed with your staff via telephone on January 16 and 17, 2013, the Navy is conducting consultation under Section 106 of the National Historic Preservation Act (NHPA) regarding the Navy's proposed Base Realignment and Closure (BRAC) transfer of Federal property at the Naval Weapons Station Seal Beach (NWSSB) Detachment Concord, located in Contra Costa County, California ("former NWS Concord," hereafter). The Navy is inviting the United States Bureau of Reclamation (USBR) and Contra Costa County Water District (CCCWD) to participate in this consultation because the USBR-owned and CCCWD-operated Contra Costa Canal and Clayton Canal are located within the Navy's Area of Potential Effect (APE). This letter summarizes Navy's compliance actions to date, and outlines plans for future consultation. Additionally, the Navy seeks your input on the findings of the enclosed *Draft Historic Building Inventory and Evaluation Update Report, Inland Area, Concord Naval Weapons Station, Contra Costa County, California* (December, 2012) ("Draft Historic Evaluation Report," hereafter) (Enclosure (1)). We respectfully request your input concurrence on the report's findings within 30 days, or **by March 1, 2013.** The Navy is concurrently seeking and considering the input of the consulting parties identified in the distribution list included in Enclosure (2), and seeking the concurrence of the State Historic Preservation Officer (SHPO).

2007 Initiation of Consultation

In accordance with the enacted BRAC 2005 recommendations, the former NWS Concord was identified for closure and was operationally closed in 2008. Since that time, the Navy has transferred property to the U.S. Army and U.S. Coast Guard via Federal-to-Federal property transfers. The Navy is proposing to transfer the remaining portion of the "Inland Area" out of Federal ownership (Enclosure 3). The Navy initiated consultation on this undertaking with the California State Historic Preservation Office (SHPO) and other-potentially-interested parties on August 6, 2007 and requested SHPO concurrence on the determination of the APE. The Navy defined the APE as the approximately 5,032-acre portion of the "Inland Area" proposed for transfer. The Navy received SHPO concurrence on the APE determination on September 12, 2007 (USN#070813A).

Section 106 Compliance Efforts Since 2007

Since 2007, the Navy has conducted an archaeological survey (2008), a historic building evaluation (2009, updated 2012), the fieldwork for an archaeological evaluation (2012), and re-engaged consultation in November 2012.

Identification and Evaluation of Archaeological Resources

In 2008, the Navy completed a Phase I intensive, pedestrian survey of the "Inland Area" (ASM Affiliates-Garcia-Herbst and Hale, 2008). The result of the survey was the identification and/or re-identification of a total of twenty-two archaeological sites and four archaeological isolates. These included the relocation of two prehistoric sites (CA-CCO-680, P-07-00861) and three historical archaeological sites (P-07-00860, P-07-000485, and P-07-2683); and the identification of seventeen new archaeological sites including one prehistoric site (CA-CCO-786) and sixteen historical archaeological sites. No artifacts were collected as part of the pedestrian survey.

Due to the potential to encounter human remains at prehistoric site CA-CCO-680, the Navy consulted with Federally-

recognized Indian Tribes to develop a Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action under 43 CFR 10.5. prior to conducting a Phase II subsurface testing/evaluation program. To support implementation of the NAGPRA Plan of Action and to assist the Navy in identifying historic properties that may possess religious and cultural significance to Indian Tribes under 36 CFR 800.4(c)(1), the Navy invited representatives of the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians to participate as Native American Specialists for the Phase II evaluation.

On August 24, 2012, the Navy completed the fieldwork for a Phase II archaeological evaluation of the identified archaeological resources from the 2008 survey. This effort included a subsurface archaeological testing program at prehistoric sites CA-CCO-680, CACCO-786, and P-07-00861 and historical archaeological site CA-CCO-791H. During fieldwork, human remains and NAGPRA funerary objects were encountered at CA-CCO-680. In accordance with the NAGPRA Plan of Action, all human remains and NAGPRA cultural items were reburied on site. Although the Navy's archaeological evaluation report is still in development, the Navy anticipates that CA-CCO-680 may be eligible for the National Register. Additional archaeological sites may also be identified as eligible during the preparation of and consultation concerning the archaeological evaluation report. Given the limited potential for subsurface archaeological data to be present at the remaining historical archaeological sites, which primarily include above-ground features from the mid to late 19th and early 20th century ranching occupation (i.e. foundations, fence lines, wells, windmills, corrals, mine shafts, etc ...) , the Navy's archaeological report will also include a comprehensive historic, rural landscape evaluation of the remaining historic archaeological resources that were not tested.

The Navy expects that we will be beginning consultation on a draft Phase II archaeological evaluation report in late February.

Identification and Evaluation of Historic Resources

In 2009, the Navy conducted an updated evaluation of historic resources in the Inland Area proposed for transfer. The 2009 "(DRAFT) *UPDATE REPORT*- Historic Building Inventory and Evaluation, Concord Naval Weapons Station, Contra Costa County, California" (JRP Historical Consulting Services, 2009) provided an update to prior historic evaluations (William Self Associates, 1993; JRP Historical Consulting Services, 1998). The report inventoried and evaluated 422 buildings and structures and concludes that none meet the criteria for listing in the NRHP. In order to finalize the evaluation of historic resources, the Navy has field verified the 2009 Draft and prepared the enclosed Draft Historic Evaluation Report (December 2012) for consulting party input.

Plans for Future Consultation

The Navy re-engaged Section 106 consultation with SHPO and interested parties at a consultation meeting on November 8, 2012. At this initial meeting, the Navy described its undertaking (transfer), provided an overview of plans for future consultation on draft historic resources and archaeological resource reports, and identified interested consulting parties. The Navy may identify additional interested parties through the public participation components of the National Environmental Policy Act (NEPA) process. The next step in the ongoing consultation is Navy's consideration of consulting party input on the enclosed Draft Historic Evaluation Report.

Draft Historic Evaluation Report: Now Seeking Input

The enclosed Draft Historic Evaluation Report aims to identify whether there are historic buildings or structures located within the Area of Potential Effect (APE) (Inland Area of the former NWS Concord proposed for transfer). The enclosed Draft Historic Evaluation Report provides an update to two previous Navy evaluation reports: one for World War II-era buildings and structures (Self and Associates, 1993) and one for Cold War-era resources (JRP, 1998). Taken together, the Self and Associates and JRP evaluations concluded that none of the Navy's buildings or structures within the Inland Area were

eligible for the NRHP. The Navy consulted on these studies and received SHPO concurrence on both in the 1990s. The enclosed Draft Historic Evaluation Report re-affirms the findings of the two previous studies and confirms that the passage of time has not affected the eligibility status of resources that were less than 50 years of age at the time of their initial evaluation. Overall, the enclosed Draft Historic Evaluation Report concludes that none of the 422 historic buildings or structures evaluated is eligible for listing in the National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR), either individually or as part of a historic district.

The evaluation of NRHP/CRHR eligibility for buildings and structures within the APE is included in Chapter 4 of the enclosed report, with overall conclusions provided at the end of that chapter. Department of Parks Recreation (DPR) 523 site forms in Appendix B record the resources and provide resource-specific evaluations of NRHP/CRHR eligibility. Similar resources are grouped together by function or by general area on these DPR 523 site forms. Appendix A, Table 1 can assist the reader in identifying DPR 523 site forms of interest: Table 1 provides a list of all evaluated resources by Navy Building Number / Function and indicates which DPR 523 form addresses each resource. Appendix B then contains a large-format map of the APE/Inland Area, followed by the DPR 523 forms in alphabetical order by Resource Name (located in the top right corner of the form).

Additionally, it is important to note that the Contra Costa Canal (including its subsidiary, the Clayton Canal) is located within the APE and is a historic property eligible for the NRHP/CRHR as determined by consensus with SHPO on March 9, 2005 (SHPO Reference: FHWA050131A). Portions of the Contra Costa Canal and Clayton Canal are located within the Navy's APE and are resources owned by the US Bureau of Reclamation and operated by the Contra Costa Water District. Therefore, the Navy is inviting the USBR and CCWD to participate in this Section 106 consultation. The enclosed Historic Evaluation Report evaluates bridges and culverts associated with the Contra Costa Canal, but the Navy's report does not re-evaluate the Contra Costa Canal or Clayton Canal. Additionally, the enclosed

5090
Ser BPMOW.els/0049B
JAN 3 0 2013

evaluation report also appears to have evaluated bridges over the canals in the Inland Area that may be owned or operated by USBR and CCWD. In coordination with USBR and CCWD in 2009, our Navy real estate team identified eight Navy-owned bridges along the canals, with other bridges assumed to be owned by USBR/CCWD (Enclosure (4)). The Navy's finding on all evaluated bridges and culverts is not eligible for the NRHP or CRHR. The bridges and culverts are evaluated on the "CCC/Clayton Canal Bridges & Culverts" DPR 523 Form in Appendix B.

We respectfully request your input on the findings of the enclosed report within 30 days, or **by no later than March 1, 2013.** You will soon receive an email providing an electronic version of a "consulting party comment form." To expedite our response to comments, we respectfully request that you submit your organization's comments on the comment form and via email to Ms. Erica Spinelli (erica.spinelli@navy.mil) by March 1, 2013.

Should you have any questions or need additional information, please contact Ms. Erica Spinelli , Senior Cultural Resources Manager, at (619) 532-0980 or by email at erica.spinelli@navy.mil.

Sincerely,

KIMBERLY A. OSTROWSKI
Base Closure Manager
By direction of the Director

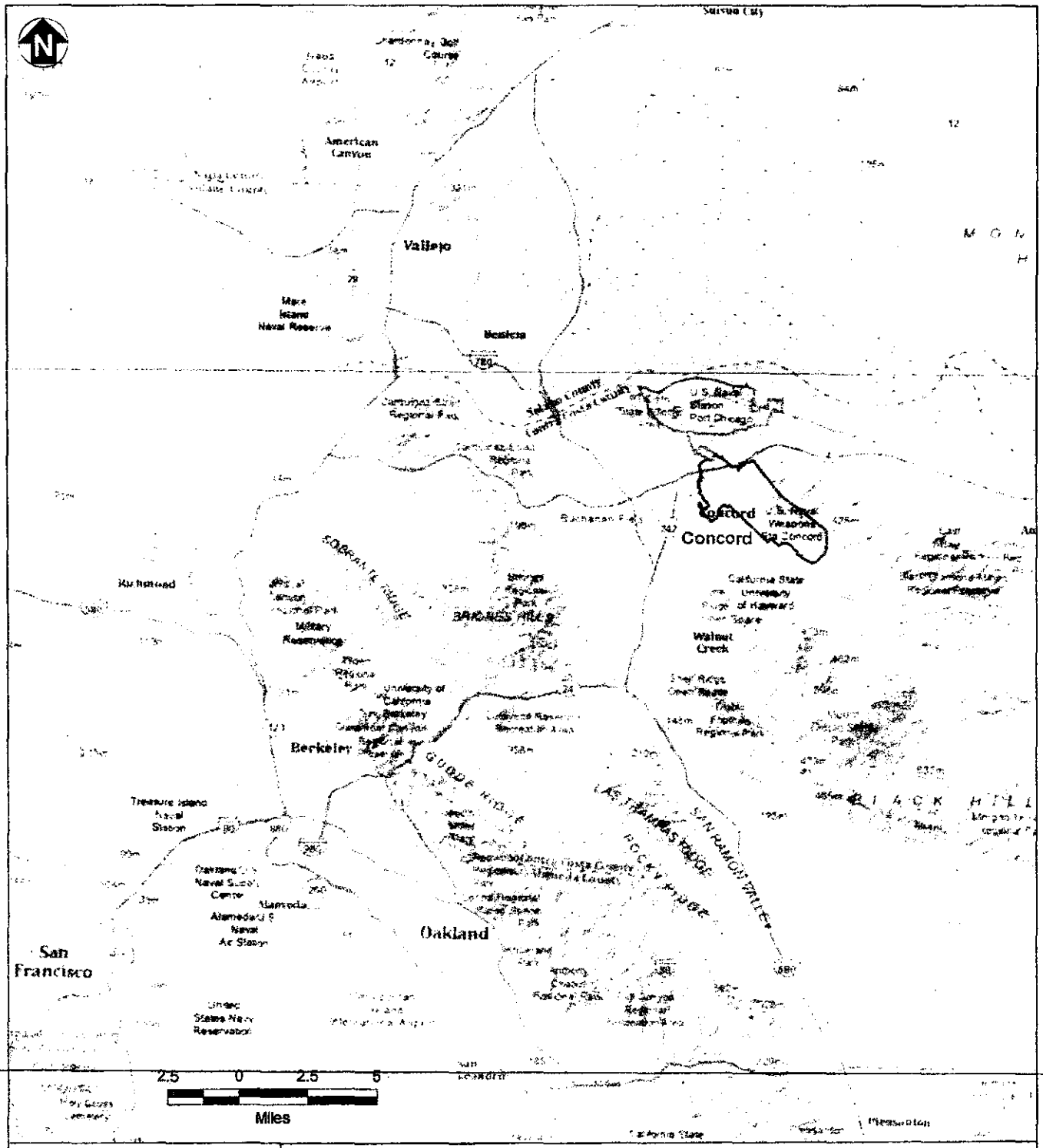
Enclosures: 1. *Draft Historic Building Inventory and Evaluation Update Report, Inland Area, Concord Naval Weapons Station, Contra Costa County, California* (December, 2012) (Report provided on CD)
2. Distribution List of Consulting Parties
3. Regional Location Map Depicting the "Inland Area" Proposed for Transfer

5090
Ser BPMOW.els/0049B
JAN 30 2013

Copy to: (w/o encl)

Ms. BranDee Bruce
Architectural Historian
United States Bureau of Reclamation
Environmental Compliance Office, MP 150
2800 Cottage Way
Sacramento CA 95825-1898

Mr. George Herbst, Archaeologist
Naval Facilities Engineering Command, Southwest
1220 Pacific Highway, Code EV5.GH
San Diego, CA 92132



Installation Boundary

Tidal Area

Inland Area

Basemap Source: ESRI, USGS, DeLorme, TANA, FAO

TETRA TECH

FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD

ENCLOSURE 1

REGIONAL LOCATION MAP

2011-11-22 v:\concord\projects\014_archaeologicalsites_nagpra\regional_vicinity.mxd TtEMI-AL simon.cardinale

ENCLOSURE 2

Distribution List of Consulting Parties

Proposed Property Recipients
City of Concord
East Bay Regional Park District
Contra Costa County Fire Protection District

Federally-Recognized Indian Tribes
California Valley Miwok Tribe
Ione Band of Miwok Indians
Shingle Springs Band of Miwok Indians

Other Consulting Parties
Trina Marine Ruano Family
Concord Historical Society
Save Mt. Diablo
United States Bureau of Reclamation
Contra Costa Water District

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
ohp@parks.ca.gov
www.ohp.parks.ca.gov

February 14, 2013

Reply in Reference To: USN070813A

Kimberly A. Ostrowski
Acting Base Closure Manager
1455 Frazee Road, Suite 900
San Diego, CA 92108

RE: Base Realignment and Closure Transfer, Naval Weapons Station Seal Beach Detachment Concord, Contra Costa County, CA

Dear Ms. Ostrowski:

Thank you for consulting with me. You do so on behalf of the United States Navy (NAVY) in an effort to comply with Section 106 of the National Historic Preservation Act of 1966, as amended. You are requesting I concur with a number of Determinations of Eligibility related to the proposed Base Realignment and Closure (BRAC) transfer at Naval Weapons Station Seal Beach Detachment Concord (Detachment Concord).

The Navy is in the process of transferring Detachment Concord out of Federal ownership through the BRAC program. In support of this undertaking, you have provided the following study:

- *Draft: Historic Building Inventory and Evaluation Update Report, Inland Area, Concord Naval Weapons Station, Contra Costa County, California* (JRP Historical Consulting, LLC: December 2012)

The Draft Historic Evaluation Report provides an update to two previous Navy evaluation reports: one for World War II-era buildings and structures (Self and Associates, 1993) and one for Cold War-era resources (JRP, 1998). The evaluations concluded that none of the Navy's buildings or structures within the Inland Area was eligible for listing on the National Register of Historic Places (NRHP). The Navy consulted with and received concurrence from the State Historic Preservation Officer in the 1990s. The Draft Historic Evaluation Report re-affirms the findings of the previous studies and confirms that the passage of time has not affected the eligibility status of resources that were less than fifty years of age at the time of their initial evaluation. Overall, the Report concludes that none of the 422 historic buildings or structures is eligible for listing on the NRHP or the California Register of Historic Resources, either individually or as part of a historic district (see attached list).

You define the Area of Potential Effects (APE) for this undertaking as the inland area of Detachment Concord. You also note that portions of the National Register eligible Contra Costa Canal and Clayton Canal are located with the APE. The Draft Historic

Evaluation Report evaluates the bridges and culverts associated with the Contra Costa Canal, but the Navy's report does not re-evaluate the canals.

Having reviewed your submittal, I have the following comments:

1) I have no objection to the your delineation of the APE;

2) I concur that the 422 resources evaluated in the Draft Historic Evaluation Report are ineligible for listing on the NRHP under Criteria A, B, and C for the reasons outlined on Pages 10-14 of the report;

3) Please be reminded that in the event of a change in project description or an inadvertent discovery, you may have additional responsibilities under 36 CFR Part 800.

Thank you for seeking my comments and considering historic properties as part of your project planning. If you have any questions or concerns, please contact Tristan Tozer of my staff at (916) 445-7027 or at email at Tristan.Tozer@parks.ca.gov.

Sincerely,

Susan K Stratton for

Carol Roland-Nawi, Ph.D.
State Historic Preservation Officer

Table 1: All Inventoried Buildings and Structures

Building Number	Function	Year Built	DPR 523 Form
61	High Explosive Magazine	1959	Alpha Area
62	High Explosive Magazine	1959	Alpha Area
63	High Explosive Magazine	1959	Alpha Area
64	High Explosive Magazine	1959	Alpha Area
65	High Explosive Magazine	1959	Alpha Area
66	High Explosive Magazine	1959	Alpha Area
67	High Explosive Magazine	1959	Alpha Area
68	High Explosive Magazine	1959	Alpha Area
69	High Explosive Magazine	1959	Alpha Area
70	High Explosive Magazine	1959	Alpha Area
71	High Explosive Magazine	1959	Alpha Area
72	High Explosive Magazine	1959	Alpha Area
73	High Explosive Magazine	1959	Alpha Area
74	High Explosive Magazine	1959	Alpha Area
75	High Explosive Magazine	1959	Alpha Area
76	High Explosive Magazine	1959	Alpha Area
77	High Explosive Magazine	1959	Alpha Area
78	Small Arms / Pyrotechnics Magazine	1959	Alpha Area
79	Guard House	1959	Alpha Area
81	Weapons Maintenance	1959	Building 81 Complex
82	RDT&E Storage	1959	Building 81 Complex
83	Lunch, Locker, and Boiler	1959	Building 81 Complex
84	Storage	1959	Building 81 Complex
85	Pumphouse	1959	Building 81 Complex
86	Generator	1959	Building 81 Complex
87	Inert Storage Building	1959	Building 87 Complex

Building Number	Function	Year Built	DPR 523 Form
88	Storage Shed	1959	Building 87 Complex
89	Pump House	1959	Building 87 Complex
93	Guidance Checkout Facility	1960	Building 93 Complex
94	Ready Issue Building	1960	Building 93 Complex
96	Lunch, Locker, Boiler Building	1960	Building 93 Complex
97	Warhead Assembly Building	1960	Building 97 Complex
98	Boiler and Sentry House	1960	Building 97 Complex
112	Field Toilet	1954	Building IA50 Complex
113	Operational Storage	1946	Building IA50 Complex
114	Fire Station Outbuilding	1946	Security and Safety
116	Public Works Shop	1946	Public Works
131	Water Tank	1960	Utilities and Services
132	Water Tank	1960	Utilities and Services
150	Public Works Maintenance Storage	1963	Public Works
151	Guided Missile Facility	1963	Building 97 Complex
152	Gymnasium	1966	MWR
159	E.M. Club	1966	MWR
161	Parade Grounds	1945	Monuments
168	Computer / Analysis Lab.	1967	WQEC Complex
178	Service Station	1969	Utilities and Services
185	Barracks / Admin. Building	1972	Old BEQ
186	Company Barracks	1972	Old BEQ
187	BEQ	1972	Old BEQ
193	Auto Hobby Shop	1971	MWR
252	Warehouse	1972	MWR
253	Warehouse	1972	MWR

Building Number	Function	Year Built	DPR 523 Form
254	Storage	1972	MWR
256	Hobby Shop	1973	MWR
261	Guided Missile Laboratory	1970	WQEC Complex
263	Ammunition Rework	1974	Barricaded Building 263
264	Special Service Center	1974	MWR
265	Special Service Center	1974	MWR
270	Administrative Storage	1973	WQEC Complex
271	Storage	1976	Old BEQ
275	Sentry House	1976	Security and Safety
276	Guided Missile Laboratory	1973	WQEC Complex
277	Administrative Storage	1973	WQEC Complex
282	Computer / Analysis Laboratory	1976	WQEC Complex
291	Missile Magazine West	1980	Bunker City
292	Missile Magazine East	1980	Bunker City
293	Administrative Storage	1980	WQEC Complex
294	Administrative Storage	1980	WQEC Complex
296	Materials Laboratory	1971	WQEC Complex
297	Materials Laboratory	1971	WQEC Complex
395	Administration	1981	New BEQ
396	Lounge	1981	New BEQ
397	BEQ	1981	New BEQ
398	Dining Facility and BEQ	1981	New BEQ
405	Utility Shed		WQEC Complex
406	RDT&E Storage	1980	WQEC Complex
409	Chapel	1980	MWR
416	Fire Station Outbuilding	1946	Security and Safety
420	Storage Shed	c.1990	Building 93 Complex
421	Storage Shed	c.1990	Building 93 Complex
422	Ordnance Operations	1983	Bunker City
423	Ordnance Operations	1984	Public Works
428	Hazardous Waste Storage	1987	Bunker City
429	Hazardous Waste Storage	1987	Building 93 Complex

Building Number	Function	Year Built	DPR 523 Form
430	Hazardous Waste Storage	1987	WQEC Complex
435	Racquetball Courts Addition	1989	MWR
441	Magazine	c.1980	Bunker City
442	Magazine	c.1980	Bunker City
BP1-BP5	Black Powder Magazine	1945	BP1-BP5
C3, C3A	Railroad Barricade	1945	Railroad
CS1-CS16	Telephone Sheds	1945	CS1-CS16
3FT1-3FT10	Fuse and Detonator Magazine	1945	3FT1-10
E98	Safety and Training Building	1945	E98
FD11	Fuse and Detonator Magazine	1953	3FT Area
FD12	Fuse and Detonator Magazine	1953	3FT Area
FD13	Fuse and Detonator Magazine	1953	3FT Area
FD14	Fuse and Detonator Magazine	1954	Alpha Area
GA1-GA93	Magazines	1945	GA1-93
GA94-GA116	Smokeless Powder Magazines	1953	Bunker City
HE1-HE60	High Explosive Magazines	1945	HE1-60
IA1	Administration Building	1945	IA1
IA4	Generator		Utilities and Services
IA5	Warehouse / Supply Department	1945	IA5
IA6	Boiler House	1945	IA6
IA7	Inland Firehouse	1945	IA7
IA8	Personnel Offices	1945	IA8
IA10	Barracks	1945	IA10
IA11	Offices / Storage	1945	IA11
IA12	Heavy Equipment Repair	1945	IA12
IA13	Water Distribution Facility	1945	IA13
IA15	Public Works Shop	1945	IA15 and IA16
IA16	Public Works Shop	1945	IA15 and IA16
IA17	Service Station	1945	IA17
IA18, A, B, C, D	Base Hospital	1945	IA18, A, B, C, D
IA19	Boiler House	1945	IA19
IA20	Materials Laboratory	1947	WQEC Complex
IA21	Computer / Analysis Lab	1953	WQEC Complex
IA21A	Physical / Non-destructive Testing	1953	WQEC Complex

Building Number	Function	Year Built	DPR 523 Form
IA22	Evaluation Library	1945	IA22
IA23	Ammunition / Explosives	1947	WQEC Complex
IA24, A, B	Battery Charging Building	1945	IA24
IA25	Ammunitions Rework Building	1945	IA25
IA27	Car Blocking Shop / Storage	1945	IA27
IA36	Utility Building	1946	WQEC Complex
IA37	Public Works Shop	1947	Public Works
IA38	Warehouse	1947	Public Works
IA43	Storage	1951	Public Works
IA45	Pumphouse		Former Airport Area
IA46	Storage	1952	Public Works
IA48	Storage	1952	Public Works
IA49	Maintenance / Storage	1952	Public Works
IA50	Ammunition Transfer Facility	1953	Building IA50 Complex
IA51	Auto Maintenance Facility	1953	Public Works
IA52	Compressor House	1953	Public Works
IA53	Substation	1988	Utilities and Services
IA54	Substation		Utilities and Services
IA55	Ordnance Operations	1954	Bunker City
IA56	Field Office	1954	Former Airport Area
IA57	Pistol Range	1946	MWR Outdoor
IA58	Materials Laboratory	1957	WQEC Complex
IA60	Baseball Field	1957	MWR Outdoor
IS1	Inert Storehouse Building	1945	IS1-4, IS6-9
IS2	Storehouse Building	1945	IS1-4, IS6-9
IS3	Storehouse Building	1945	IS1-4, IS6-9
IS4	Guided Missile Maintenance Facility	1945	IS1-4, IS6-9
IS5	Guided Missile Air Launch	1945	IS5
IS6	Inert Storehouse Building	1945	IS1-4, IS6-9
IS7	Guided Missile Container Storage	1945	IS1-4, IS6-9
IS8	Inert Storehouse Building	1945	IS1-4, IS6-9

Building Number	Function	Year Built	DPR 523 Form
IS9	Inert Storehouse Building	1945	IS1-4, IS6-9
IS10-IS14	Inert Material Storage	1953	Bunker City
IT1	Water Tank	1945	Utilities and Services
IT2	Water Tank		Utilities and Services
IT4	Water Tank	1959	Utilities and Services
RBS1-RBS32 and RBS59-95	Railroad Barricaded Sidings	1945	RBS1-9
RS1-RS6	Ready Magazine	RS1-2 1947, RS3-6 1952	WQEC Complex
SD1	RDT&E Storage	1945	WQEC Complex
	Tunnels	c.1975	Road System
	Mine	c. 1870-1900	Mine
	Railroad Trackage	continuous	Railroad
	Locomotive Steam Cleaner	1975	Railroad
	Gazebo	1972	Old BEQ
	Canal Bridges	1937-1950s	Canal Bridges
	Cistern	c. 1896	Cistern

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

January 23, 2014

Reply in Reference To: USN070813A

Alan K. Lee
Department of the Navy, Base Closure Manager
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108

RE: Base Realignment and Closure Transfer, Naval Weapons Station Seal Beach Detachment Concord, Contra Costa County, CA

Dear Mr. Lee:

Thank you for consulting with me. You do so on behalf of the United States Navy (NAVY) in an effort to comply with Section 106 of the National Historic Preservation Act of 1966, as amended. You are requesting I concur with a number of Determinations of Eligibility related to the proposed Base Realignment and Closure (BRAC) transfer at Naval Weapons Station Seal Beach Detachment Concord (Detachment Concord).

The Navy is in the process of transferring Detachment Concord out of Federal ownership through the BRAC program. In our previous round of consultation I concurred that 442 historic resources evaluated as part of the transfer of Detachment Concord were eligible for listing on the National Register of Historic Places (NRHP). I also had no issues with your delineation of the Project's Area of Potential Effects (APE).

Since this time the Navy has prepared a Draft Archaeological Evaluation Report. The report aims to identify whether there are National Register-eligible archeological sites located within the APE. The results of these investigations are summarized in the following report:

- *National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California* (ASM Affiliates, Inc.: November 2013)

This study builds on the findings of a 2008 intensive pedestrian survey of the Detachment Concord Inland Area. The report concludes that sites CCO-680 and P-861 are eligible for listing on the NRHP; CCO-680 under Criterion D and P-861 under Criteria A and D. The remaining nineteen sites have been evaluated as ineligible for listing on the NRHP (see the attached chart for a complete list of evaluated resources). The evaluation also concludes that there are no identified rural historic landscapes,

traditional cultural properties (TCPs), or traditional cultural landscapes (TCLs) located with the APE that meet the criteria for listing on the NRHP.

Having reviewed your submittal, I have the following comments:

1) I concur that archaeological sites CCO-680 and P-861 are eligible for listing on the NRHP under the above-listed National Register Criteria. However, as P-861 is completely within the boundary of CC-680, shouldn't they be considered one multi-component site?

2) I further concur that the remaining nineteen resources are ineligible for listing on the NRHP under any applicable criteria;

3) I agree that there are no rural historic landscapes, TCPs, or TCLs within the APE that meet the criteria for listing on the NRHP;

4) Please be reminded that in the event of a change in project description or an inadvertent discovery, you may have additional responsibilities under 36 CFR Part 800.

Thank you for seeking my comments and considering historic properties as part of your project planning. I look forward to further consultation with you on the transfer of this property. If you have any questions or concerns, please contact Tristan Tozer of my staff at (916) 445-7027 or at email at Tristan.Tozer@parks.ca.gov.

Sincerely,

Carol Roland-Nawi, Ph.D.

Carol Roland-Nawi, Ph.D.
State Historic Preservation Officer

Table 9.1 Sites Evaluated at NWSSB DET Concord Inland Area by Rural Historic Landscape Study and Archaeological Testing

Evaluation Type and Site Number	Site Class or Type	Contribution to Historical Themes		Contribution to Ethnographic/Prehistoric Themes				Management Issues		
		Agriculture	Ranching	Ceremonial	Chronology	Settlement and Subsistence	Interaction and Exchange	Physical Integrity	Data Potential	NRHP Eligibility
Historic Landscape										
P-485	Agricultural	-	-	na	na	na	na	Poor	Low	NE
P-860	Agricultural	-	-	na	na	na	na	Poor	Low	NE
P-2683	Mining	-	-	na	na	na	na	Poor	Low	NE
CCO-777H	Ranch/Agricultural	-	-	na	na	na	na	Poor	Low	NE
CCO-778H	Agricultural	-	-	na	na	na	na	Poor	Low	NE
CCO-779H	Agricultural	-	-	na	na	na	na	Poor	Low	NE
CCO-780H	Agricultural	-	-	na	na	na	na	Poor	Low	NE
CCO-781H	Agricultural	-	-	na	na	na	na	Poor	Low	NE
CCO-782H	Agricultural	-	-	na	na	na	na	Poor	Low	NE
CCO-783H	Agricultural	-	-	na	na	na	na	Poor	Low	NE
CCO-784H	Refuse Deposit	-	-	na	na	na	na	Poor	Low	NE
CCO-785H	Ranch/Agricultural	-	-	na	na	na	na	Poor	Low	NE
CCO-787H	Railroad/Industrial	-	-	na	na	na	na	Poor	Low	NE
CCO-788H	Ranch/Agricultural	-	-	na	na	na	na	Poor	Low	NE
CCO-789H	Military	-	-	na	na	na	na	Poor	Low	NE
CCO-793H	Refuse Deposit	-	-	na	na	na	na	Poor	Low	NE
CCO-794H	Military Rock Quarry	-	-	na	na	na	na	Poor	Low	NE
Archaeological Testing										
CCO-791H	Ranch/Agricultural	-	-	na	na	na	na	Fair	Moderate	NE
CCO-786	Prehistoric Habitation	na	na	-	-	-	-	Poor	Low	NE
P-861	Prehistoric Habitation	na	na	+	+	+	+	Good	High	E
CCO-680	Prehistoric Habitation	na	na	+	+	+	+	Good	High	E

- Note: NE, Not Eligible; E, Eligible; na, Not Applicable

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.els/0075
MAR 3 2014

Mr. Tristan Tozer
California Department of Parks and Recreation
Office of Historic Preservation (OHP)
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Mr. Tozer:

This letter continues consultation under Section 106 of National Historic Preservation Act (NHPA) regarding the Navy's proposed Base Realignment and Closure (BRAC) transfer of Federal property at the former Naval Weapons Station Seal Beach (NWSSB) Detachment Concord ("former NWS Concord," hereafter), located in Contra Costa County, California (SHPO Reference: USN070813A). Enclosed with this letter is the Final Archaeological Evaluation Report, which finalizes the Navy's identification of historic properties efforts under 36 CFR 800.4. This letter additionally documents the Navy's finding of adverse effect under 36 CFR 800.5 and proposes a March 26, 2014 consultation meeting to begin consultation regarding a Section 106 Memorandum of Agreement (MOA).

As more thoroughly described in prior correspondence, the Navy is proposing to transfer the remaining portion of the "Inland Area" of the former NWS Concord out of Federal ownership. This property transfer comprises the Navy's undertaking under Section 106 and the Area of Potential Effects (APE) is the approximately 5,032-acre portion of surplus property proposed for transfer. The City of Concord is the designated Local Reuse Authority (LRA) and proposed, primary property recipient. The City of Concord proposes reuse of this property consistent with its *Concord Reuse Project Area Plan* (2012).

Identification of Historic Properties Efforts Complete (36 CFR 800.4)

In January 2013, the Navy began consultation on a draft Historic Evaluation Report with the Office of Historic Preservation (OHP) and other consulting parties. The Historic Evaluation Report concluded that none of the 422 historic

buildings or structures evaluated is eligible for listing in the National Register of Historic Places (NRHP), either individually or as part of a historic district. The Navy received OHP concurrence on the findings of the Historic Evaluation Report on February 14, 2013.

In November 2013, the Navy began consultation with the OHP and interested consulting parties on the *Draft National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California* (November, 2013) ("Draft Archaeological Evaluation Report," hereafter). Although consulting parties provided comments, there were no objections to the Navy's NRHP eligibility findings. The Navy received OHP concurrence on the findings of the Draft Archaeological Evaluation Report on January 23, 2014. Therefore, the Navy's findings remain unchanged from the draft report: Sites CCO-680 and P-861 are eligible for listing in the National Register of Historic Places (NRHP), and there are no identified rural historic landscapes, Traditional Cultural Properties, or Traditional Cultural Landscapes located within the APE that meet the criteria for listing in the NRHP. Enclosed is a CD containing the Final Archaeological Evaluation Report, and hard copy page replacements for insertion into the previously-provided hard copy of the Draft report. Page replacements/insertions include Appendix I- Section 106 Consultation Record which contains the Navy's responses to all comments received and copies of consultation correspondence.

Finding of Adverse Effect (36 CFR 800.5)

As a result of the above identification efforts, the Navy has identified two historic properties eligible for the NRHP (prehistoric archaeological sites CA-CCO-680 and P-861) that are subject to the Navy's proposed transfer of property out of Federal ownership. Without "adequate and legally enforceable restrictions or conditions to ensure long-term preservation of these properties' historic significance," transfer of these properties out of Federal ownership would be considered an adverse effect under 36 CFR 800.5(2)(vii). Additionally, it is

reasonably-foreseeable that reuse of the surplus property consistent with the City of Concord's *Concord Reuse Project Area Plan* (2012) may also adversely affect historic properties.

In accordance with 36 CFR 800.5 and through the analysis above, the Navy has applied the criteria of adverse effect and finds that the Navy's proposed undertaking, and the subsequent reuse of the surplus property by other property owners, has the potential to result in adverse effects to historic properties.

Consultation Meeting to Develop a Section 106 Memorandum of Agreement

In accordance with 36 CFR 800.6, the Navy is proposing a meeting with interested consulting parties to begin consultation regarding the resolution of adverse effects. The goal of the meeting will be to discuss means to avoid, minimize, and mitigate potential adverse effects to historic properties. The Navy is proposing a Section 106 Memorandum of Agreement (MOA) and is seeking consulting party input on its content.

Section 106 Consultation Meeting re Former NWS Concord
Wednesday, March 26, 2014
10:00 AM to 1:00 PM
Community Meeting Room
City of Concord Police Department
1350 Galindo Street
Concord, CA 94520

Sincerely,

Alan K. Lee

ALAN K. LEE
Base Closure Manager
By direction of the Director

Enclosures: 1. Final Archaeological Evaluation Report - CD and page replacements
2. Copy of Consultation Letter to Consulting Parties

5090
Ser BPMOW.els/0075
MAR 3 2014

Copy to: (w/o encl)
Mr. George Herbst, Archaeologist
Naval Facilities Engineering Command, Southwest
1220 Pacific Highway, Code EV5.GH
San Diego, CA 92132

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.els/0076
MAR 3 2014

Dear Consulting Parties:

This letter continues consultation under Section 106 of National Historic Preservation Act (NHPA) regarding the Navy's proposed Base Realignment and Closure (BRAC) transfer of Federal property at the former Naval Weapons Station Seal Beach (NWSSB) Detachment Concord ("former NWS Concord," hereafter), located in Contra Costa County, California. Enclosed with this letter is the Final Archaeological Evaluation Report, which finalizes the Navy's identification of historic properties efforts under 36 CFR 800.4. This letter additionally documents the Navy's finding of adverse effect under 36 CFR 800.5 and proposes a March 26, 2014 consultation meeting to begin consultation regarding a Section 106 Memorandum of Agreement (MOA).

As more thoroughly described in prior correspondence, the Navy is proposing to transfer the remaining portion of the "Inland Area" of the former NWS Concord out of Federal ownership. This property transfer comprises the Navy's undertaking under Section 106 and the Area of Potential Effects (APE) is the approximately 5,032-acre portion of surplus property proposed for transfer. The City of Concord is the designated Local Reuse Authority (LRA) and proposed, primary property recipient. The City of Concord proposes reuse of this property consistent with its *Concord Reuse Project Area Plan* (2012).

Identification of Historic Properties Efforts Complete (36 CFR 800.4)

In January 2013, the Navy began consultation on a draft Historic Evaluation Report with the Office of Historic Preservation (OHP) and other consulting parties. The Historic Evaluation Report concluded that none of the 422 historic buildings or structures evaluated is eligible for listing in the National Register of Historic Places (NRHP), either individually or as part of a historic district. The Navy received OHP concurrence on the findings of the Historic Evaluation Report on February 14, 2013.

In November 2013, the Navy began consultation with the OHP and interested consulting parties on the *Draft National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California* (November, 2013) ("Draft Archaeological Evaluation Report," hereafter). Although consulting parties provided comments, there were no objections to the Navy's NRHP eligibility findings. The Navy received OHP concurrence on the findings of the Draft Archaeological Evaluation Report on January 23, 2014. Therefore, the Navy's findings remain unchanged from the draft report: Sites CCO-680 and P-861 are eligible for listing in the National Register of Historic Places (NRHP), and there are no identified rural historic landscapes, Traditional Cultural Properties, or Traditional Cultural Landscapes located within the APE that meet the criteria for listing in the NRHP. Enclosed is a CD containing the Final Archaeological Evaluation Report. For those parties previously receiving a hard copy of the Draft report, hard copy page replacements are also included with this correspondence. Page replacements/insertions include Appendix I- Section 106 Consultation Record which contains the Navy's responses to all comments received and copies of consultation correspondence.

Finding of Adverse Effect (36 CFR 800.5)

As a result of the above identification efforts, the Navy has identified two historic properties eligible for the NRHP (prehistoric archaeological sites CA-CCO-680 and P-861) that are subject to the Navy's proposed transfer of property out of Federal ownership. Without "adequate and legally enforceable restrictions or conditions to ensure long-term preservation of these properties' historic significance," transfer of these properties out of Federal ownership would be considered an adverse effect under 36 CFR 800.5(2)(vii). Additionally, it is reasonably-foreseeable that reuse of the surplus property consistent with the City of Concord's *Concord Reuse Project Area Plan* (2012) may also adversely affect historic properties.

5090
Ser BPMOW.els/0076
MAR 3 2014

In accordance with 36 CFR 800.5 and through the analysis above, the Navy has applied the criteria of adverse effect and finds that the Navy's proposed undertaking, and the subsequent reuse of the surplus property by other property owners, has the potential to result in adverse effects to historic properties.

Consultation Meeting to Develop a Section 106 Memorandum of Agreement

In accordance with 36 CFR 800.6, the Navy is proposing a meeting with interested consulting parties (listed in Enclosure 2) to begin consultation regarding the resolution of adverse effects. The goal of the meeting will be to discuss means to avoid, minimize, and mitigate potential adverse effects to historic properties. The Navy is proposing a Section 106 Memorandum of Agreement (MOA) and is seeking your input on its content. We request your participation for the following consultation meeting:

Section 106 Consultation Meeting re Former NWS Concord
Wednesday, March 26, 2014
10:00 AM to 1:00 PM
Community Meeting Room
City of Concord Police Department
1350 Galindo Street
Concord, CA 94520

Please email Ms. Erica Spinelli at erica.spinelli@navy.mil to indicate your participation in the meeting.

Sincerely,

Alan K. Lee

ALAN K. LEE
Base Closure Manager
By direction of the Director

Enclosures: 1. Final Archaeological Evaluation Report on CD
2. Distribution List of Consulting Parties

5090
Ser BPMOW.els/0076
MAR 3 2014

Copy to: (w/o encl)
Mr. George Herbst, Archaeologist
Naval Facilities Engineering Command, Southwest
1220 Pacific Highway, Code EV5.GH
San Diego, CA 92132

ENCLOSURE 2

Distribution List of Consulting Parties

Proposed Property Recipients
City of Concord
East Bay Regional Park District
Contra Costa County Fire Protection District

Federally-Recognized Indian Tribes
California Valley Miwok Tribe
Ione Band of Miwok Indians
Shingle Springs Band of Miwok Indians

Other Consulting Parties
United States Army Corps of Engineers
Trina Marine Ruano Family
Concord Historical Society
Save Mt. Diablo
United States Bureau of Reclamation
Contra Costa Water District

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE ROAD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW/0078
March 4, 2014

Ms. Kelly Fanizzo
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, NW, Suite 803
Old Post Office Building
Washington, DC 20004

Dear Ms. Fanizzo:

This purpose of this letter is to notify the Advisory Council on Historic Preservation (ACHP) of an adverse effect finding regarding the Navy's proposed Base Realignment and Closure (BRAC) transfer of Federal property at the former Naval Weapons Station Seal Beach (NWSSB) Detachment Concord ("former NWS Concord," hereafter), located in Contra Costa County, California (SHPO Reference: USN070813A). This letter summarizes the Navy's identification of historic properties efforts under 36 CFR 800.4, documents the Navy's finding of adverse effect under 36 CFR 800.5, and proposes a Section 106 Memorandum of Agreement (MOA).

The Navy is proposing to transfer the remaining portion of the "Inland Area" of the former NWS Concord out of Federal ownership. This property transfer comprises the Navy's undertaking under Section 106 and the Area of Potential Effects (APE) is the approximately 5,032-acre portion of surplus property proposed for transfer. The City of Concord is the designated Local Reuse Authority (LRA) and proposed, primary property recipient. The City of Concord proposes reuse of this property consistent with its *Concord Reuse Project Area Plan* (2012). The 2012 *Area Plan* is available online at **http://www.concordreuseproject.org/library/** and a diagram of the *Area Plan*'s proposed land uses is provided as an enclosure. The City of Concord also certified a California Environmental Quality Act (CEQA) Final Environmental Impact Report (EIR) Addendum on the Area Plan in 2012.

Identification of Historic Properties Efforts Complete (36 CFR 800.4)

In January 2013, the Navy began consultation on a draft Historic Evaluation Report with the Office of Historic Preservation (OHP) and other consulting parties. The Historic

Evaluation Report concluded that none of the 422 historic buildings or structures evaluated is eligible for listing in the National Register of Historic Places (NRHP), either individually or as part of a historic district. The Navy received OHP concurrence on the findings of the Historic Evaluation Report on February 14, 2013.

In November 2013, the Navy began consultation with the OHP and interested consulting parties on the *Draft National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California* (November, 2013) ("Draft Archaeological Evaluation Report," hereafter). Although consulting parties provided comments, there were no objections to the Navy's NRHP eligibility findings. The Navy received OHP concurrence on the findings of the Draft Archaeological Evaluation Report on January 23, 2014. Therefore, the Navy's findings remain unchanged from the draft report: Sites CA-CCO-680 and P-861 are eligible for listing in the National Register of Historic Places (NRHP), and there are no identified rural historic landscapes, Traditional Cultural Properties, or Traditional Cultural Landscapes located within the APE that meet the criteria for listing in the NRHP.

Summary of Historic Properties Identified Within the APE

Site CA-CCO 680 is a prehistoric archaeological site located near the intersection of East Olivera and Willow Pass Roads. Site CCO-680 appears to represent a remnant of a once more substantial burial and habitation locality spanning from 500 B.C. to 1800 A.D. Prehistoric cultural materials at Site CCO-680 are both horizontally and vertically extensive, reflecting a fairly complex depositional history. Surface materials are widely distributed (280 N-S x 175 m E-W) but occur primarily within an artifact concentration roughly 90 m in diameter. The surface of the artifact concentration contains flaked stone tools, ground stone tools, shell artifacts, faunal bone, shell detritus, and human remains, while surfaces beyond this area mainly yielded much lower artifact densities of these materials. Exploratory excavations confirmed these differences, finding a rich, deep midden deposit inside the artifact concentration but only a thin layer of redistributed midden matrix around the periphery of the artifact concentration within

the plow zone. Human remains are also present throughout the cultural deposit, consisting of highly fragmented skeletal elements from all portions of the body.

Site CCO-680 is eligible for NRHP listing under Criterion D as it has the potential to yield important information in two respects. First, CCO-680 has the potential to provide data concerning prehistoric burial/ceremonial practices. The site carries religious/cultural significance with regard to contemporary ethnographic perspectives about death and burial. It is also possible that future studies at Site CCO-680 could provide useful information about the social organization of individuals interred at the site. Contemporary Miwok consultants interpret Site CCO-680 as a burial site due to the presence of human remains, regardless of their condition or location. Evidence for multiple interments at Site CCO-680 potentially reflects repeated use of the site as a cemetery or burial location over an extended period of time. Along these lines, it is also important to consider the data potential of Site CCO-680 with respect to its possible relationship to the previously-identified Site CCO-250 (the Maltby Mound). A more definitive answer regarding the relationship of these sites could potentially be obtained through a comparative analysis between the currently recorded assemblage and the existing artifact collection at U.C. Berkeley. Moreover, if Site CCO-680 does represent the basal layer of Site CCO-250, it could offer additional information regarding the evolution of burial customs from the Middle/Late Transition into the Late Period and to improve our understanding of late prehistoric mortuary and adaptive patterns in central California.

Additionally, site CCO-680 has great data potential under Criterion D with respect to coastal-inland adaptations, obsidian conveyance/exchange networks, settlement systems, subsistence patterns, and many other related issues. Considering the restricted volume of excavated deposits at Site CCO-680 at the time of this study, it is very likely that additional diagnostic artifacts, dateable materials, and subsistence data would still be available from Site CCO-680 through future studies.

Site P-861 is a prehistoric archaeological site located to the east of Mt. Diablo Creek that consists of four rock features (two with multiple bedrock mortars and two with numerous cupules) and a shallow, but horizontally-extensive, midden deposit. Site P-861 appears to have been a short-term residential camp that may have also been utilized for ceremonial

purposes during specific events and likely at different times of year. The site appears to have been occupied between about 1,900 and 300 years ago. From an archaeological standpoint, mortar features such as these are often assumed to represent acorn and other plant food processing, while the cupule rocks may have served either for food processing or ceremonial activities. Limited testing in the midden yielded a small obsidian arrow point fragment, flaked stone tools, pieces of obsidian, chert, and petrified wood debitage, and some vertebrate and invertebrate fauna.

Site P-861 is eligible for NRHP listing under Criterion A and D since it appears to have high data potential with respect to ethnographic and prehistoric research. With respect to Criterion A, the current ethnographic study indicates that Site P-861 was potentially used as a ceremonial location for people living in the Inland Area at NWSSB DET Concord during prehistoric times. If ceremonial, it may have also functioned as a "power" site or a medicine camp where rituals were performed and/or plants used to assist in those rituals were gathered. In its current condition, Site P-861 preserves a group of archaeological remains that exemplifies the use of certain "special" sites for both ceremonial and utilitarian purposes and provides some insight to how prehistoric people may have conceptualized and divided the use of ritual and living space. The importance of Site P-861 with respect to events in prehistory is measured by the significance attributed to the ceremonial events that likely took place there by the Miwok consultants.

With respect to Criterion D, Site P-861 has the potential to yield important archaeological data regarding prehistoric chronology, settlement, and subsistence. Obsidian studies have facilitated an estimate of site age and offer a glimpse of lithic material conveyance patterns and reflect the spatial extent of regional settlement and exchange systems. Mortar features and subsistence remains provide insight as to the types and locations of environments used by site occupants and, by extension, of how people made seasonal use of inland and coastal landscapes in western Contra Costa County. It is possible that further archaeological work at Site P-861 could recover additional cultural materials to solidify site chronology, test current hypotheses, and examine other local and regional research issues concerning the prehistory of NWSSB DET Concord. As bedrock milling elements are rare in this area, future research such as residue studies could provide significant

additional data for understanding the function of these features along with a better understanding of site function.

The **Contra Costa Canal** (including its subsidiary, the Clayton Canal) is located within the Navy's APE and is a historic property eligible for the NRHP as determined by consensus with SHPO on March 9, 2005 (SHPO Reference: FHWA050131A). Portions of the Contra Costa Canal and Clayton Canal are located within the Navy's APE and are resources owned by the US Bureau of Reclamation and operated by the Contra Costa Water District. The Canals are not subject to the Navy property transfer.

Finding of Adverse Effect (36 CFR 800.5)

As a result of the above identification efforts, the Navy has identified two historic properties eligible for the NRHP (prehistoric archaeological sites CA-CCO-680 and P-861) that are subject to the Navy's proposed transfer of property out of Federal ownership. Without "adequate and legally enforceable restrictions or conditions to ensure long-term preservation of these properties' historic significance," transfer of these properties out of Federal ownership would be considered an adverse effect under 36 CFR 800.5(2)(vii). Additionally, it is reasonably-foreseeable that reuse of the surplus property consistent with the City of Concord's *Concord Reuse Project Area Plan* (2012) may also adversely affect historic properties.

The *Area Plan* proposes the following land uses in the vicinity of each historic property. **CA-CCO-680** is located within an area proposed for "Greenways, Citywide Parks, and Tournament Facilities." **P-861** is located within an area proposed for "Conservation Open Space" and a regional park. Although redevelopment is proposed for the areas surrounding the **Contra Costa Canal**, no direct effects to the Canals are proposed in the *Area Plan*.

In accordance with 36 CFR 800.5 and through the analysis above, the Navy has applied the criteria of adverse effect and finds that the Navy's proposed undertaking, and the subsequent reuse of the surplus property by other property owners, has the potential to result in adverse effects to historic properties.

5090
Ser BPMOW/0078
March 4, 2014

Consultation Meeting to Develop a Section 106 Memorandum of Agreement

In accordance with 36 CFR 800.6, the Navy is proposing a meeting with interested consulting parties to begin consultation regarding the resolution of adverse effects. The goal of the meeting will be to discuss means to avoid, minimize, and mitigate potential adverse effects to historic properties. The Navy is proposing a Section 106 Memorandum of Agreement (MOA) and is seeking consulting party input on its content.

Section 106 Consultation Meeting re Former NWS Concord
Wednesday, March 26, 2014
10:00 AM to 1:00 PM
Community Meeting Room
City of Concord Police Department
1350 Galindo Street
Concord, CA 94520

As discussed on February 28, 2014, the Navy will follow up with you after this meeting to discuss whether the ACHP will participate in the consultation.

Sincerely,

Alan K. Lee

ALAN K. LEE
Base Closure Manager
By direction

Enclosures: 1. *Concord Reuse Project Area Plan* (2012) Diagram
2. Copy of Consultation Letter to Consulting Parties

Copy to: (w/o encl via electronic mail)
NAVFAC HQ Cultural Resources Program Lead (Mr. William Manley)
NAVFAC SW (Mr. George Herbst)
CA Department of Parks and Recreation- OHP (Mr. Tristan Tozer)

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.els/0804
MAR 5 2014

Mr. Troy Burdick
Superintendent
Central California Agency
Bureau of Indian Affairs
650 Capitol Mall, Suite 8-500
Sacramento, California 95814

Dear Mr. Burdick:

We received your letter dated December 31, 2013 (Forestry 4401-P5) regarding a proposed meeting concerning the Ione Band of Miwok Indians' and California Indian Water Commission's interest in the former Naval Weapons Station, Concord. As requested, our staff contacted the Bureau of Indian Affairs' (BIA) Central California Agency Real Estate Department to discuss and schedule the proposed meeting. The Real Estate Department referred us to Mr. Gerald Jones, Assistant Regional Forester, for additional information. After several attempts to reach your staff, we have been unsuccessful in further discussing BIA's interest and the prospective meeting agenda. Should the BIA's interest involve the treatment of National Register of Historic Places (NRHP)-eligible resources at NWS Concord, we invite your agency's participation in Navy's March 26, 2014 Section 106 consultation meeting. Additional background on the current status of the proposed BRAC property transfer is described below.

By email correspondence with Mr. Jones dated January 27, 2014, the Navy summarized the current status of the BRAC process at Concord. The former NWS Concord was identified for BRAC closure in 2005 and, as required by BRAC regulations, the Navy solicited for Federal Agency interest by means of correspondence and Federal Register notice on January 17, 2006. After identification of the Federal Agency transferee (the United States Coast Guard was the only responding agency), the City of Concord (City), as the Local Reuse Authority (LRA), conducted surplus screening for approximately 5,032 acres in 2007. Under the surplus screening process, the City receives and reviews applications for the property for those agencies interested in public benefit conveyances, and incorporates the approved applicants into its reuse plan. As a result of a 6-year local

planning process, the City finalized its reuse plan (the Concord Reuse Project Area Plan or "Area Plan") and certified a California Environmental Quality Act Environmental Impact Report for the Area Plan in 2012. The Navy is proposing to transfer a total of approximately 5,032 acres of "surplus" property in the Inland Area of the former Naval Weapons Station Concord to the City, as well as to the Department of Interior (for East Bay Regional Parks District (EBRPD)) in accordance with the Area Plan.

To support the proposed property transfers to the City of Concord and EBRPD, the Navy is currently in the process of complying with Section 106 of the National Historic Preservation Act. The Navy has recently completed consultation regarding the identification of historic properties. The State Historic Preservation Officer has concurred with the Navy's 2013 basewide historic resources evaluation (no historic resources identified), and with the 2013 Phase II archaeological evaluation report (which identifies prehistoric archaeological sites CA-CCO-680 and P-861 as eligible for the NRHP). The Navy previously consulted with the Ione Band, California Valley Miwok Tribe, and Shingle Springs Band of Miwok Indians under Native American Graves Protection and Repatriation Act (NAGPRA) and tribal representatives participated in the archaeological fieldwork and provided ethnographic input to our evaluation report. We anticipate that these Tribes will continue consultation with Navy to identify ways to avoid, minimize, and mitigate the potentially-adverse effects of the proposed transfers and reuse on sites CA-CCO-680 and P-861. The enclosure provides the Navy's Section 106 finding of adverse effect and proposes a consultation meeting on March 26, 2014 from 10:00am to 1:00pm in Concord, California to begin consultation on a Section 106 Memorandum of Agreement (MOA). We welcome BIA participation in this meeting.

Other BIA or Tribal proposals regarding land use after Navy transfer, such as natural resources stewardship or land management partnerships, should be separately coordinated with the LRA (City of Concord) because the Navy will not have a long-term land management or oversight role at the former installation.

5090
Ser BPMOW.els/0082
MAR 5 2014

Please advise as to whether the BIA plans to participate in the Section 106 consultation meeting. The point of contact regarding Section 106 is Ms. Erica Spinelli, NEPA Planner / Senior Cultural Resources Manager at erica.spinelli@navy.mil and 619-532-0980.

Sincerely,

Alan K. Lee

ALAN K. LEE
Base Closure Manager
By direction of the Director

Enclosure: Navy consultation letter re: Section 106 Finding of Effect

Copy to: (w/encl)
Mr. Gerald Jones
Assistant Regional Forester
Pacific Regional Office
Bureau of Indian Affairs
2800 Cottage Way, Room W2822
Sacramento, CA 95825

Realty Officer
Central California Agency
Bureau of Indian Affairs
650 Capitol Mall, Suite 8-500
Sacramento, California 95814

Honorable Yvonne Miller
Chairperson
Ione Band of Miwok Indians
9252 Bush Street, Suite 3
Plymouth, CA 95669

Vice Chair
California Indian Water Commission, Inc.
4305 39th Ave.
Sacramento, CA 95824

Preserving America's Heritage

April 28, 2014

Mr. Alan K. Lee
Base Closure Manager
Department of the Navy
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

Ref: Proposed Base Realignment and Closure and Transfer of Naval Weapons Station Concord Contra Costa County, California
5090 – Ser BPMOW/0078

Dear Mr. Lee:

The Advisory Council on Historic Preservation (ACHP) recently received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on properties listed on and eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases,* of our regulations, "Protection of Historic Properties" (36 CFR Part 800) does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or another party, we may reconsider this decision. Additionally, should circumstances change, and you determine that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR 800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the California State Historic Preservation Officer (SHPO) and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the Agreement and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions or require further assistance, please contact Kelly Fanizzo at 202-606-8507, or via email at kfanizzo@achp.gov.

Sincerely,

Raymond V. Wallace

Raymond V. Wallace
Historic Preservation Technician
Office of Federal Agency Programs

Preserving America's Heritage

October 15, 2014

Ms. Erica Spinelli
NEPA Project Manager
NAVFAC BRACPMO West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

Ref: Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord Contra Costa, California

Dear Ms. Spinelli:

On October 9, 2014, the Advisory Council on Historic Preservation (ACHP) received your notification for public meetings for the Draft Environmental Impact Statement for the referenced project. This notification was sent in compliance with the National Environmental Policy Act (NEPA). We have no comments or plans to become a Cooperating Agency pursuant to NEPA, at this time.

Section 106 of the National Historic Preservation Act instructs the federal agency to take into account the effect of an undertaking on any property that is eligible for or listed in the National Register of Historic Places "prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license." 16 U.S.C. § 470f (emphasis added). This statutory language makes it clear that a federal agency must complete its Section 106 responsibilities before ("prior to") reaching its final decision ("approval," "issuance") on an undertaking.

According to the Council on Environmental Quality's regulations, a Record of Decision (ROD) "shall state … what the decision was … [and] … whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not." 40 C.F.R. § 1502.2 (emphasis added). Accordingly, the issuance of a ROD conveys the agency's final decision on an undertaking and details the nature of that decision.

In order to meet the statutory and regulatory requirements of the Section 106 process, the ROD should be issued concurrent with or after the completion of the Section 106 process. As you know, the execution of a Section 106 program alternative, such as a Programmatic Agreement, in accordance with the Section 106 regulations indicates that an agency has completed this process.

In April 2014 the ACHP notified Mr. Alan Leewe would not participate in the Section 106 consultation for this reference undertaking. While Naval Facilities Engineering Command, Base Realignment and Closure Program Management Office West should continue Section 106 consultation with the California State Historic Preservation Officer, Indian tribes, and other consulting parties,please remove the ACHP from your NEPA distribution list.

ADVISORY COUNCIL ON HISTORIC PRESERVATION
401 F Street, Suite 308 Washington, DC 20001-2637
Phone: 202-517-0200 Fax: 202-517-6381 achp@achp.gov www.achp.gov

If you have any questions regarding compliance with the requirements of Section 106, please contact Ms. Katharine R. Kerr by telephone at (202) 517-0216 or by e-mail at kkerr@achp.gov.

Sincerely,



Caroline D. Hall
Assistant Director
Federal Property Management Section
Office of Federal Agency Programs

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5750
Ser BPMOW.els/0250
JUL 1 2015

Mr. Tristan Tozer
California Department of Parks and Recreation
Office of Historic Preservation (OHP)
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Mr. Tozer:

This letter continues consultation under Section 106 of National Historic Preservation Act (NHPA) regarding the Navy's proposed Base Realignment and Closure (BRAC) transfer of Federal property at the former Naval Weapons Station Seal Beach Detachment Concord ("former NWS Concord," hereafter), located in Contra Costa County, California (SHPO Reference: USN070813A). Enclosed for your review is the Draft Section 106 Memorandum of Agreement (MOA) for the disposal and reuse of the former NWS Concord (Enclosure (1)). We respectfully request OHP's submittal of comments on the Draft MOA **by August 17, 2015.** Via separate correspondence, the Navy is also concurrently seeking and considering the input of the consulting parties identified in the distribution list included in Enclosure (2).

As more thoroughly described in prior correspondence, the Navy is proposing to transfer the remaining portion of the "Inland Area" of the former NWS Concord out of Federal ownership. The Area of Potential Effects (APE) for the Navy's undertaking is the approximately 5,038-acre portion of surplus property proposed for transfer. The City of Concord is the designated Local Reuse Authority (LRA) and proposes reuse of this property consistent with its *Concord Reuse Project Area Plan* (2012). The City of Concord and East Bay Regional Park District are the proposed property recipients for the areas containing the National Register of Historic Places-eligible prehistoric archaeological sites CA-CCO-680 and P-861. Additionally, the United States Army Corps of Engineers (USACE) proposes to make a permit decision pursuant to Section 404 of the Clean Water Act of 1977 (33 U.S.C. § 1344, 2007) to support implementation of the Area Plan and USACE has determined that issuance of a permit to the City constitutes an undertaking under Section 106.

5750
Ser BPMOW.els/0250

JUL 1 2015

The enclosed Draft MOA reflects previous consultation with OHP and the Advisory Council on Historic Preservation, and OHP's recommendation for deed notices to resolve potential adverse effects arising from the Navy's property transfer. This Draft MOA also reflects consulting party input received during the course of consultation, and more specifically, input provided during a consultation meeting held on March 26, 2014.

Based upon written comments received on the Draft MOA, the Navy will continue consultation with interested parties through conference calls or face-to-face meetings as needed. Please let us know whether a conference call or consultation meeting with OHP would support your review and facilitate submittal of comments.

The Navy BRAC Program Management Office (PMO) West is moving offices in mid-July. Effective July 13, 2015, please send all correspondence to:

Director
Navy BRAC PMO West
33000 Nixie Way
Bldg 50, Attn: Ms. Erica Spinelli
San Diego, CA 92147

Electronic mail will be the most reliable form of communication until telephone numbers are posted to our website at www.bracpmo.navy.mil.

Should you have any questions or need additional information, please contact Ms. Erica Spinelli at (619) 532-0980 (before July 13th) or by email at erica.spinelli@navy.mil.

Sincerely,

Alan K. Lee

ALAN K. LEE
Base Closure Manager
By direction of the Director

5750
Ser BPMOW.els/0250

JUL 1 , 2015

Enclosures: 1. Draft "Section 106 Memorandum of Agreement Between the United States Navy, United States Army Corps of Engineers, and the California State Historic Preservation Officer Regarding the Disposal and Reuse of the Former Naval Weapons Station (NWS) Concord, Concord, California" (draft dated June 30, 2015)
2. Copy of Consultation Letter to Consulting Parties

Copy to: (w/encl)

Ms. Lisa Mangione
Regulatory Project Manager
Regulatory Division, South Branch
U.S. Army Corps of Engineers
1455 Market Street, 16th Floor
San Francisco, California 94103-1398

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5750
Ser BPMOW.els/0249

JUL 1 2015

Dear Consulting Parties:

This letter continues consultation under Section 106 of National Historic Preservation Act (NHPA) regarding the Navy's proposed Base Realignment and Closure (BRAC) transfer of Federal property at the former Naval Weapons Station Seal Beach Detachment Concord ("former NWS Concord," hereafter), located in Contra Costa County, California (SHPO Reference: USN070813A). Enclosed for your review is the Draft Section 106 Memorandum of Agreement (MOA) for the disposal and reuse of the former NWS Concord (Enclosure (1)). We respectfully request submittal of written comments on the Draft MOA **by August 17, 2015.** The Navy is concurrently seeking and considering the input of the consulting parties listed in Enclosure (2) and the California Office of Historic Preservation (OHP).

As more thoroughly described in prior correspondence, the Navy is proposing to transfer the remaining portion of the "Inland Area" of the former NWS Concord out of Federal ownership. The Area of Potential Effects (APE) for the Navy's undertaking is the approximately 5,038-acre portion of surplus property proposed for transfer. The City of Concord is the designated Local Reuse Authority (LRA) and proposes reuse of this property consistent with its *Concord Reuse Project Area Plan* (2012). The City of Concord and East Bay Regional Park District are the proposed property recipients for the areas containing the National Register of Historic Places-eligible prehistoric archaeological sites CA-CCO-680 and P-861. Additionally, the United States Army Corps of Engineers (USACE) proposes to make a permit decision pursuant to Section 404 of the Clean Water Act of 1977 (33 U.S.C. § 1344, 2007) to support implementation of the Area Plan and USACE has determined that issuance of a permit to the City constitutes an undertaking under Section 106.

The enclosed Draft MOA reflects previous consultation with OHP and the Advisory Council on Historic Preservation, and responds to input received from other consulting parties during the course of consultation on this project. Based upon written comments received on the enclosed Draft MOA, the Navy will continue consultation with interested parties through conference calls or face-to-face meetings as needed.

5750
Ser BPMOW.els/0249

JUL 1 2015

The Navy BRAC Program Management Office (PMO) West is moving offices in mid-July. Effective July 13, 2015, please send all correspondence to:

Director
Navy BRAC PMO West
33000 Nixie Way
Bldg 50, Attn: Ms. Erica Spinelli
San Diego, CA 92147

Electronic mail will be the most reliable form of communication until telephone numbers are posted to our website at www.bracpmo.navy.mil.

Should you have any questions or need additional information, please contact Ms. Erica Spinelli at (619) 532-0980 (before July 13th) or by email at erica.spinelli@navy.mil.

Sincerely,

Alan K. Lee

ALAN K. LEE
Base Closure Manager
By direction of the Director

Enclosures:
1. Draft "Section 106 Memorandum of Agreement Between the United States Navy, United States Army Corps of Engineers, and the California State Historic Preservation Officer Regarding the Disposal and Reuse of the Former Naval Weapons Station (NWS) Concord, Concord, California" (draft dated June 30, 2015)
2. Distribution List of Consulting Parties

Copy to: (w/encl)
Ms. Lisa Mangione
Regulatory Project Manager
Regulatory Division, South Branch
U.S. Army Corps of Engineers
1455 Market Street, 16th Floor
San Francisco, California 94103-1398

DRAFT DATED JUNE 30, 2015

SECTION 106 MEMORANDUM OF AGREEMENT (MOA) BETWEEN THE UNITED STATES NAVY, UNITED STATES ARMY CORPS OF ENGINEERS, AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION (NWS) CONCORD, CONCORD, CALIFORNIA

WHEREAS, the U.S. Department of Navy (Navy) has closed and is directed under the Defense Base Realignment and Closure Act (DBCRA) of 1990, Pub. L. No. 101-510, as amended in 2005, to dispose of the former Naval Weapons Station, Concord in Concord, California; and

WHEREAS, the Navy has previously executed Federal-to-Federal property transfers and approximately 5,038 acres of the Inland Area remain available for transfer out of Federal ownership; and

WHEREAS, the Navy is authorized to allow for interim use of property under its pre-conveyance licensing and leasing program; and

WHEREAS, the Navy's transfer of approximately 5,038 acres out of Federal ownership and the Navy's pre-conveyance licensing and leasing program constitute the Navy's Section 106 Undertaking and the 5,038-acre area constitutes the Area of Potential Effects (APE); and

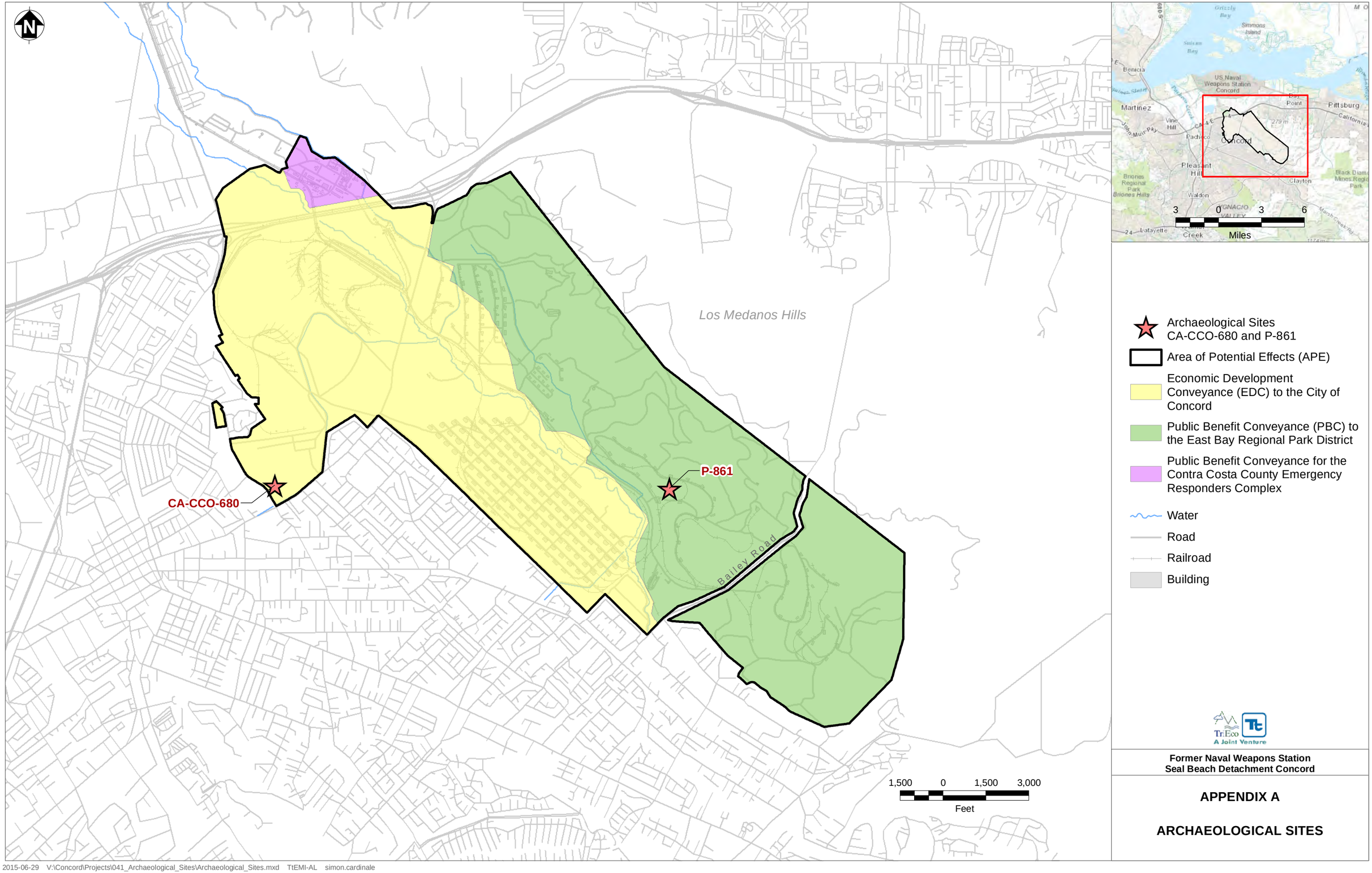
WHEREAS, the Navy consulted on a basewide Historic Evaluation Report which identified no historic properties eligible for the National Register of Historic Places (NRHP), and received California State Historic Preservation Officer (SHPO) concurrence on February 14, 2013; and

WHEREAS, the Navy completed a Phase I archaeological survey of the Inland Area in 2008; and

WHEREAS, the Navy consulted with Federally-Recognized Tribes on a Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action (PoA) to support the Phase II archaeological evaluation of the Inland Area; and

WHEREAS, the Navy executed a NAGPRA PoA, Amended- August 2012, with the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians, and the Navy reburied all human remains and NAGPRA cultural items on site at archaeological site CA-CCO-680; and

WHEREAS, the Navy identified prehistoric archaeological sites CA-CCO-680 and P-861as the only NRHP-eligible resources, and that there are no identified rural historic



TtEco
A Joint Venture

Former Naval Weapons Station Seal Beach Detachment Concord

APPENDIX A

ARCHAEOLOGICAL SITES

ENCLOSURE 2

Distribution List of Consulting Parties

Proposed Property Recipients
City of Concord
East Bay Regional Park District
Contra Costa County Fire Protection District
Contra Costa County Office of the Sheriff

Federally-Recognized Indian Tribes
California Valley Miwok Tribe
Ione Band of Miwok Indians
Shingle Springs Band of Miwok Indians

Other Consulting Parties
United States Army Corps of Engineers
United States Bureau of Indian Affairs
United States Bureau of Reclamation
Trina Marine Ruano Family
Concord Historical Society
Save Mt. Diablo
Contra Costa Water District

Cooperating Agency Communication

This page intentionally left blank.

Cooperating Agency Correspondence

Jane Hicks, Chief, Regulatory Division. March 5, 2013. To: Ronald Bochenek, Navy BRAC PMO.

Kimberly Ostrowski, Base Closure Manager. April 1, 2013. To: Jane Hicks, Chief, Regulatory Division, Department of the Army.

Tori White, Acting Chief, Regulatory Division. December 14, 2015. To: Ms Erica Spinelli, Deputy Base Closure Manager and Mr. Guy Bjerke, Director, City of Concord.

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

REPLY TO
ATTENTION OF

Regulatory Division

MAR - 5 2013

Subject: File Number 2010-00190S

Department of the Navy BRAC PMO West
Attn: Ronald Bochenek
1455 Frazee Road, Suite 900
San Diego, CA 92108

Dear Mr. Bochenek:

Pursuant to the Council on Environmental Quality National Environmental Policy Act (NEPA) regulations (40 CFR 1501.6), and Section 106 of the National Historic Preservation Act (NHPA) (16 USC 470.f), the U.S. Army Corps of Engineers (Corps) requests cooperating agency status on the Concord Naval Weapons Station Closure and Redevelopment Project (CNWS), in the City of Concord, Contra Costa County, California. Your agency is currently acting as lead federal agency for the project, and due to the fact that the Corps will likely be taking over as the federal lead once the closure is complete, it would be beneficial to share resources during the base closure process. Please respond in order to confirm cooperating agency status, or to discuss any questions or concerns.

You may refer any questions on this matter to Ian Liffmann of my Regulatory staff by telephone at (415) 503-6769 or by e-mail at ian.liffmann@usace.army.mil. All correspondence should be addressed to the Regulatory Division, South Branch, referencing the file number at the head of this letter.

Sincerely,

Jane M. Hicks
Chief, Regulatory Division

Copy Furnished:

Ebbin, Moser & Skaggs, LLP; Attn: Shawn Zovod

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

5090
Ser BPMOW.rjb/0188
APR 1 2013

Ms. Jane Hicks
Chief, Regulatory Division
Department of the Army
San Francisco Division, U.S. Army Corps of Engineers
1455 Market Street, 16th Floor
San Francisco, CA 94103-1398

SUBJECT: NEPA AND SECTION 106 STATEMENT OF COOPERATION

Dear Ms. Hicks:

In response to your letter of March 5, 2013, the Navy concurs with your request to be a Cooperating Agency for the preparation of the Environmental Impact Statement (EIS) for the disposal and reuse of Naval Weapons Station Seal Beach, Detachment Concord (NWS Concord), Concord, CA. The Navy will serve as the Lead Agency and the United States Army Corps of Engineers (USACE) will be designated a Cooperating Agency, as the terms are defined and used in 40 CFR 1501-1508. It is understood that USACE will incorporate the EIS into a future USACE National Environmental Policy Act (NEPA) analysis to support a Clean Water Act Section 404 permit. Additionally, this letter formally accepts the USACE as a consulting party in the Navy's ongoing Section 106 consultation regarding the disposal of the former NWS Concord.

The Navy, as part of its EIS, will study the potential environmental consequences resulting from the disposal of surplus property at NWS Concord from federal ownership and its subsequent reuse in a manner consistent with the *Concord Reuse Project Area Plan*, as adopted by the City of Concord on January 24, 2012. To assess the potential environmental consequences, the EIS will evaluate two property reuse alternatives and a No Action Alternative. Alternative 1 is the reuse of the property in a manner consistent with the *Concord Reuse Project Area Plan*. Alternative 2 consists of a greater amount of residential and mixed-use development. Alternative 2 includes elements of the Connected Villages Alternative (Alternative 2) assessed in the 2008 Draft Environmental Impact Report (DEIR) of the City of Concord's Reuse Plan conducted in compliance with the California

Environmental Quality Act (CEQA). Alternative 2 is included for the purposes of the NEPA analysis and does not imply a change to the City of Concord's adopted Area Plan and 2030 General Plan, which is the result of a public planning process. The No-Action Alternative is evaluated in detail in this EIS as prescribed by CEQ regulations. Both reuse alternatives assume full build-out over a 25-year period; the period of analysis will be during construction and when full build-out has been completed.

The EIS will address potential direct, indirect, short-term, long-term, and cumulative impacts on the human and natural environments, including but not limited to potential impacts on topography, geology and soils; water resources; biological resources; air quality; greenhouse gases and climate change; noise; infrastructure and utilities; transportation, traffic, and circulation; cultural resources; land use; socioeconomics and environmental justice; hazards and hazardous substances; and public services. The level of analysis will consist of a programmatic analysis and will not assess the future proposed reuse in detail (e.g., construction/design-level detail). It is our understanding the USACE has not requested any changes to the "scope" of the EIS analysis, including the proposed action, purpose and need, project area, NEPA alternatives, analysis methodology, project schedule, or proposed public involvement activities as proposed by the Navy. The EIS will be prepared in accordance with all applicable federal guidance, including Section 102(2) (c) of the National Environmental Policy Act (NEPA) of 1969, as implemented by the Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Office of the Chief of Naval Operations Instruction (OPNAVINST) 5090.1C CH-1.

The Navy requests USACE support in preparing the water resources analysis of the EIS, including description of existing conditions and analysis of potential indirect, direct, and cumulative impacts, and participation at the Draft EIS Public Hearing Meeting.

The Navy will cooperate, as necessary, and keep USACE apprised of the status of the NEPA project, including schedule and major project milestones. In addition, the Navy will provide

an opportunity for USACE to review and comment on draft project deliverables, including participation in any Draft EIS and Final EIS government review meetings. It is expected that USACE will review and comment on project deliverables in a timely manner (i.e., within three weeks). The Navy requests that USACE not release preliminary or draft versions of any project deliverable (e.g., Draft EIS) to the public or any other local, state, or federal agency without coordinating and receiving approval from the Navy. The Navy requests that throughout this process, USACE provide timely expert input, analyses review and comment to address the potential impacts of disposal and reuse, and ensure that the EIS schedule is maintained. In addition, the Navy requests that USACE keep the Navy apprised of current events in relation to their proposed Section 404 permitting process.

The Navy is solely responsible for directing the scope of the NEPA analysis and determining the final content of all project deliverables, including the Draft and Final EIS, Notice of Availability, and all public meeting materials; distributing project documents; determining analysis methodology, findings, and conclusions; timing and schedule of the NEPA analysis and project milestones; and responding to all public and agency comments (e.g., response to comments) and public inquiries. All public or regulatory requests for EIS related documents and comments/questions on the Navy's NEPA process or the EIS must be forwarded to the Navy.

The Navy will ensure that input from USACE is appropriately incorporated into the Draft and Final EIS and will utilize USACE's comments to the maximum extent possible, consistent with the legal requirements and our responsibilities as Lead Agency.

The Navy will administer the contracts for the EIS. If the USACE believes an additional contract or funding is required, the USACE will notify the Navy. The Navy will only be responsible for funding and or administering the contract if it is determined by the Navy to be necessary and integral to satisfy the Navy's NEPA obligations. Both agencies will work cooperatively and in good faith. The Navy retains all decision-making authority over the EIS.

5090
Ser BPMOW.rjb/0188

APR 1 2013

In addition to the request for NEPA Cooperating Agency status, your March 5, 2013 letter also requested collaboration between our agencies regarding Section 106 of the NHPA. Recognizing the opportunity for Navy/USACE collaboration in our agencies' compliance with Section 106, the Navy accepts the USACE as a consulting party in the Navy's ongoing Section 106 consultation concerning the proposed disposal of the former NWS Concord. The Navy initiated consultation on this undertaking in 2007 and has recently re-engaged consultation to move forward with the identification of historic properties within the Area of Potential Effects. At a minimum, USACE support will be necessary for future consultation meetings and for the analysis and resolution of potential effects on historic properties related to wetland habitat restoration / mitigation, or other aspects of the USACE's 404 permitting process. The Navy looks forward to the USACE's participation as a consulting party, as defined under Section 106 of the National Historic Preservation Act and its implementing regulations at 36 CFR 800. We request that our agencies' cultural resources managers and regulatory staffs confer in order to discuss the details of this approach.

As the consultation progresses and additional information about historic properties and potential effects becomes available, the Navy and USACE will need to continue coordination regarding the most appropriate Section 106 compliance strategy(ies) for our two agencies. Accordingly, our agencies may revisit the USACE's role and responsibilities under Section 106. For example, should it be necessary to resolve adverse effects related to the USACE's 404 permitting process, the USACE's role under Section 106 may expand to include signatory or invited signatory status on a Section 106 agreement document such as a Memorandum of Agreement or Programmatic Agreement. Alternatively, the USACE may choose to conduct a separate Section 106 consultation that tiers off from the Navy's consultation.

If you have any questions regarding the Navy's NEPA process or the NWS Concord EIS, please contact Mr. Ronald Bochenek, NEPA Planner, at (619) 532-0906 or ronald.bochenek.ctr@navy.mil. Should you have any questions regarding the Navy's Section 106

5090
Ser BPMOW.rjb/0188
APR 1 2013

consultation, please contact Ms. Erica Spinelli, Senior Cultural Resources Manager, at (619) 532-0906 or erica.spinelli@navy.mil. The legal point of contact is Mr. Marvin Norman, Associate Counsel, NAVFAC SW, (415) 743-4727 or marvin.norman@navy.mil.

Sincerely,

KIMBERLY A. OSTROWSKI
Base Closure Manager
By direction of the Director

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

DEC 14 2015

Regulatory Division (1145b)

Ms. Erica Spinelli
Deputy Base Closure Manager
Navy, BRAC PMO West Bay
33000 Nixie Way, Building 50
San Diego, California 92147

Mr. Guy Bjerke, Director
City of Concord
1950 Parkside Drive
Concord, California 94519

Dear Ms. Spinelli and Mr. Bjerke:

This letter is in reference to the meeting on November 23, 2015, concerning the Concord Reuse Project. The U.S. Navy is proposing the disposal and subsequent redevelopment of 5,028 acres of surplus property at the former Concord Naval Weapons Station (CNWS). Land transfers are proposed to the City of Concord and the East Bay Regional Parks District. The City of Concord will oversee the proposed redevelopment of approximately 2,500 acres of the former CNWS. It was initially estimated that redevelopment would impact approximately 16 acres of wetlands and other waters subject the U.S. Army Corps of Engineers jurisdiction, but estimates have more recently been revised to approximately 6.27 acres of impacts. The purpose of the meeting was to discuss the Corps' approach for complying with Section 106 of the National Historic Preservation Act, the 404(b)(1) Guidelines, and the National Environmental Policy Act. This letter documents our agreement for working with the Navy and City in regard to the aforementioned laws and regulations.

As set forth in 33 CFR 335, Appendix C(2)(c) and 36 CFR 800.2(a)(2), Section 106 compliance should not be duplicated by federal agencies. The U.S. Army Corps of Engineers (Corps) recognizes the broader scope of the Navy's undertaking will cover the magnitude and extent of the Corps' undertaking which is more narrowly defined as the discharge of dredged or fill material into waters of the United States (WOTUS). Section 106 compliance work undertaken by the Navy will be accepted by the Corps. As such the Corps does not need to be a party to the Memorandum of Agreement (MOA) but will incorporate the terms of the MOA into special conditions of any permit issued.

The Corps supports the City's approach for acting as applicant for the Concord Reuse Project as opposed to evaluating numerous permit applications from individual developers. In evaluation of permit applications to discharge dredged or fill material into WOTUS, the Corps must evaluate alternatives that accomplish the purpose and need of the project and that are reasonable and practicable. This review is

conducted pursuant to the National Environmental Policy Act (NEPA) and the 404(b)(1) Guidelines Evaluation (Guidelines). As discussed during the meeting, reasonable alternatives evaluated by the Navy in the Environmental Impact Statement (EIS) document may or may not suffice as practicable alternatives under the Guidelines. This determination will be made following our review of the 404(b)(1) analysis submitted by the City.

With regard to NEPA compliance, the Corps' preliminary determination based on the current project impacts is an Environmental Assessment and Finding of No Significant Impact (EA/FONSI) will be prepared to inform the permit decision. The EA/FONSI will incorporate by reference applicable sections of the EIS to avoid redundancy where possible. Upon receipt of a final project description including quantification of impacts to WOTUS and required drawings (site plan, impacts, etc.) the Corps will circulate a public notice for the project. Submittal of the 404(b)(1) is not required for the public notice but a statement on how the project has been designed to avoid, minimize, and mitigate for impacts to WOTUS is required.

If you have questions regarding this letter or the project please don't hesitate to contact me at by telephone at 415-503-6768 or by email at tori.white@usace.army.mil.

Sincerely,
ORIGINAL SIGNED
BY
Tori White
ACTING CHIEF, REG. DIVISION
Tori White
Acting Chief,
Regulatory Division

CESPN-R-S Rdg File
CESPN-R

WHITE/VM
CESPN-R
6768
14 DEC 2015

Appendix B Scoping Summary Report

This page intentionally left blank.

Final Scoping Process Summary

for the

Environmental Impact Statement for the Disposal and Reuse of Surplus Property at Naval Weapons Station Concord Concord, California

June 2014

NAVFAC
Naval Facilities Engineering Command
BRAC Program Management Office

Prepared by:

Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086

1 Overview

In accordance with the National Environmental Policy Act (NEPA) and regulations set forth by the Council on Environmental Quality (CEQ), the U.S. Department of the Navy (Navy) implemented a scoping process to encourage and facilitate public involvement early in the development of the environmental impact statement (EIS) for the disposal and reuse of surplus property at the former Naval Weapons Station (NWS) Concord, California. Individuals and public agencies were encouraged to review information about the proposed action and express their concerns and issues to be addressed in the EIS by submitting comments to the Navy. The purpose of this document is to provide the results of the scoping process, a summary of the comments received, and a brief description of how the comments will be addressed in the Draft EIS.

As stated in the CEQ regulations implementing NEPA, the scoping process is designed to:

- Identify people or organizations who are interested in the proposed action
- Identify the scope (e.g., range of actions, alternatives, and impacts) and the significant issues to be analyzed in the EIS
- Identify and eliminate from detailed review those issues that will not be significant or those that have been adequately covered in prior environmental review
- Identify gaps in data and informational needs
- Set time limits for the process and page limits for the EIS
- Identify any related environmental assessments (EAs) or EISs
- Identify other environmental review and consultation requirements so they can be integrated with the EIS
- Indicate the relationship between the development of the environmental analysis and the agency's tentative decision-making schedule.

The public scoping period was initiated with publication of the Notice of Intent (NOI) in the *Federal Register* on March 14, 2013. The scoping period concluded on April 19, 2013. Two open house sessions were held on a single day (April 4, 2013) to present information to the public on the Navy's proposed action, alternatives, and resource areas to be addressed in the EIS. Comments from the public could be submitted in writing to Navy representatives during the open house sessions; or mailed in, emailed, or faxed to the Navy's designated point of contact. Comment sheets were provided at the open house sessions for members of the public to use in documenting their written comments during the public meetings.

1.1 Public Notification

1.1.1 Notice of Intent

An NOI to prepare the EIS was published in the *Federal Register* on March 14, 2013 (78 *Federal Register* [FR] 16255; see Appendix A). The NOI described the proposed action and alternatives and provided information on the Navy's scoping process, including the date, location, and times of two public scoping open house sessions to be held in the vicinity of the former NWS Concord.

1.1.2 Newspaper Display Notices

A newspaper display notice announcing the Navy's public scoping process, including the date, location and times of the public scoping open house sessions, was published in local daily newspapers that serve the population in the vicinity of the former NWS Concord. The notice was published in the following newspapers on the following dates:

- ***Contra Costa Times*: March 17, 29, 30, and 31**
- **East County Times: March 17, 29, 30, and 31**
- **A copy of the display notice is provided in Appendix A.**

1.1.3 Scoping Notification Mailer and Email

A mailer announcing the Navy's intent to prepare an EIS and to announce the public scoping process was distributed on March 14, 2013, to 2,600 federal, state, and local agencies, elected representatives, tribal entities, neighborhood alliances, and other stakeholders including residents and businesses within 500 feet of NWS Concord. An email address was available for approximately 1,184 residents and businesses within 500 feet of NWS Concord in lieu of the postal address, and for these stakeholders, an email notification was provided. A copy of the scoping notification mailer is provided in Appendix A.

1.1.4 California State Clearinghouse Notification

A Notice of Completion and Environmental Document Transmittal form was completed and delivered to the California State Clearinghouse on March 15, 2013.

1.1.5 Websites

The Base Realignment and Closure Program Management Office (BRAC PMO) provided the NOI to the Chief of Information (CHINFO) for posting to the BRAC PMO website (www.bracpmo.navy.mil). Additionally, the BRAC PMO provided the NOI to the City of Concord for posting on the city's website, as appropriate.

2 Public Scoping Meetings

2.1 Meeting Locations and Attendance

Two public scoping open house meeting sessions were held on April 4, 2012 from 4:00 p.m. to 6:00 pm and 7:00 p.m. to 9:00 pm. The open house was held at the Concord Senior Citizen's Center (Wisteria Room), 2727 Parkside Circle, Concord, California, 94519. Fifty-nine people attended the sessions.

2.2 Meeting Format and Information Provided to the Public

The Navy used an "open house" meeting format for the scoping meeting sessions. This format provides interested persons with an opportunity to review information presented at the meeting and ask questions of project representatives in an open, one-on-one setting before formulating their comments. The open house format provided a variety of layered information sources to meet individual needs and allowed for maximum community participation.

The open house layout also provides attendees with a continuous and logical flow of information about the project and offers various methods for commenting. On entering the open house, attendees were directed to a sign-in table. EIS team members at the sign-in table explained the layout of the open house and how to provide comments.

The open house included eight display booths. The booths exhibited posters with the following titles:

- The BRAC Process
- NEPA and the EIS
- Proposed Action and Alternatives
- Key EIS Topic: Land Use and Socioeconomics
- Key EIS Topic: Natural Resources
- Key EIS Topic: Quality of Life
- Key EIS Topic: Traffic and Transportation
- Key EIS Topic: Cultural Resources

The EIS team members staffed the display booths and answered questions, provided handouts, and assisted participants in submitting their comments.

Handouts available at the sign-in table and at display booths were designed to complement the display booths and to provide further information for attendees. Handouts included:

- *Base Realignment and Closure (BRAC) Process*
- *The National Environmental Policy Act (NEPA) and the EIS Process*
- *Proposed Action and Alternatives*
- *Key Topics – Environmental Impact Statement Naval Weapons Station Concord*
- *Cultural Resources*
- *Agency Contact Information*

Additionally, a poster on how to comment was also provided at the meeting, and comment forms and comment boxes were available on tables throughout the meeting room.

3 Summary of Comments and How Issues Will Be Addressed

3.1 Introduction

Scoping "statements" and scoping "comments" are defined in this report as follows:

- **Scoping Statement.** A letter, website entry, or comment submitted by comment form during the formal scoping period that may include one or more comments.
- **Scoping Comment.** One or more single issues contained in the scoping statement, related to the scope of the EIS (e.g., the purpose and need for the project, alternatives, or potential environmental impacts).

Comments about the project were written and submitted on comment forms at the scoping meetings. Other comments were received by regular mail, email, or fax. A total of 40 scoping statements were submitted during the formal scoping period. These 40 scoping statements comprised 101 comments. Fifteen comment forms were submitted at the public scoping open house sessions; the remaining comments were submitted after the meeting. Many of the scoping statements and comments focused on the development scenarios and mitigation measures that would occur after property transfer and on pre-construction.

Table 3-1 provides a summary of the scoping statements received.

Table 3-1 Format of Scoping Statements Received

Type of Scoping Statement	Number of Scoping Statements
Comment form at scoping meeting	15
Mail-in/fax/email letter from government agencies (local, state, federal)	9
Email letter from the public (including community-based organizations, neighborhood alliances, and residents)	8
Mail-in or fax letter from public	8
Total	**40**

3.2 Scoping Statements from Government Agencies and Elected Representatives

Comments received from federal, state, and local government agencies have been incorporated into the summary tables of issues and concerns by resource area (see Table 3-3). Agency comments are also summarized below by agency.

3.2.1 Elected Representatives

No scoping statements were received from federal or state elected representatives. One comment was received from the Mayor of Concord at the open house scoping meeting. The mayor indicated his support for an efficient and expedited NEPA process.

3.2.2 Federal Agencies

Comments were received from the U.S. Coast Guard (USCG) and the U.S. Environmental Protection Agency (EPA), Region 9.

The USCG noted a preliminary determination that the adjacent former U.S. Navy housing area, with 78 housing units, is in excess of its needs and that a decision has not been reached on potential disposal methods.

The EPA commented on a range of issues, including the following:

- Remediation requirements for the associated site parcels
- Construction and operational impacts on air quality
- Inclusion of alternatives to demonstrate compliance with Clean Water Section 404(b)(1) Guidelines
- Compliance with Section 438 of the Energy Independence and Security Act, i.e., measures to mitigate flow increases above pre-development levels, including the use of green infrastructure or low-impact development (LID) practices
- Indirect effects such as the potential for population and employment growth off-base
- Climate change effects and adaptation measures, including the use of on-site renewable energy components.

3.2.3 State Agencies

Comments were received from the California Public Utilities Commission and the California Department of Transportation (Caltrans).

The Public Utilities Commission commented on a range of issues, including the following:

- Development should be planned with consideration of the safety of the adjacent railroad/light rail right-of-way (ROW)
- Pedestrian circulation patterns or destinations with respect to the railroad ROW and compliance with the American Disabilities Act
- Increased traffic volumes at at-grade rail crossings
- Mitigation measures such as planning for grade separations at major thoroughfares, improvements at existing at-grade crossings, and installing continuous vandal-resistant fencing/barriers to limit trespasser access onto the railroad ROW.

Caltrans commented that the DEIS should address the following issues:

- Traffic impacts such as project-related trip generation, distribution, and assignment
- Calculation of average daily traffic, morning and evening peak hour volumes and levels of services, and cumulative traffic volumes
- Consistency with local plans
- Mitigation measures for roadways or intersections with insufficient capacity to maintain acceptable levels of service (LOSs)
- Traffic impact fees
- Scheduling and costs associated with planned improvements
- Cumulative impacts on state ROWs such as hazardous materials transport, tree removal, seasonal wetlands, and water quality impacts
- Bicycle and pedestrian facilities and local BART stations.

Additionally, Caltrans indicated that the Navy needs to coordinate projects with Caltrans, CCTA, and the city and that the developer must submit a transportation management plan prior to construction. The Caltrans letter also identifies the permits that must be obtained by the developer prior to construction and the studies/documentation that must be submitted with these permit applications.

3.2.4 Local Agencies

Comments were received from the City of Concord, the City of Antioch, the Contra Costa Environmental Health Division, and the East Bay Municipal Utility District (EBMUD).

The City of Concord reiterated its support for Alternative 1 (the Preferred Alterative), encouraged the Navy to incorporate the findings of the city's Final Environmental Impact Report (EIR) into the Navy's DEIS to the maximum extent possible; and recommended the use of graphics and boundaries used by the City of Concord in its EIR.

The City of Antioch was primarily concerned with traffic and transportation impacts and resubmitted a 2009 letter that provided comments on the City of Concord's EIR.

The Contra Costa Environmental Health Division (CCEHD) commented on pre-construction issues, identifying permit requirements, recommending that future projects are served by public sewer and city water, and noting that closed landfills on the property may fall under their jurisdiction following property disposal.

The EBMUD indicated that project development could 1) increase encroachment onto the Aqueducts right-of-way (R/W), 2) generate storm water and flooding impacts; and 3) generate flow impacts in Mt. Diablo Creek. EBMUD requested that the developer submit proposals for review and referenced additional pre-construction requirements.

3.2.5 Tribal Governments

No scoping comments were received from Native American tribal representatives.

3.3 Summary of Issues of Concern by Resource Area

All of the comments received from the public and from state, local, or federal agencies were identified and tabulated in a database by topic. Comments from the public were mostly from private citizens. Table 3-2 categorizes the comments received by frequency and topic. Issues related to the proposed action and alternatives received the most comments, followed by traffic and transportation and land use, open space and community facility/services. A number of comments indicated various permit requirements or recommendations for agency consultation prior to construction. Table 3-3 provides a summary of the comments received, organized by resource area.

Table 3-2 Frequency of Comments by Topic

Topic	Number of Comments
Proposed Action and Alternatives	22
Traffic and Transportation	13
Land Use, Open Space, and Community Services	11
Natural Resources	9
Socioeconomics	7
Quality of Life	6
Air Quality	5
Water Resources/Quality	3

Table 3-2 Frequency of Comments by Topic

Topic	Number of Comments
Cultural Resources	3
Environmental Management	3
Infrastructure/Energy	2
Noise	1
Required Consultations or Permit Requirements	8
Miscellaneous Comments	8
Total	**101**

3.3.1 Proposed Action and Alternatives

Twenty-two comments were received regarding the proposed action and alternatives. The majority of these comments (15) indicated a preference for Alternative 1. Many of the commenters noted that the city's reuse planning process resulted in the Area Plan (Alternative 1) and questioned why a second alternative discarded during the city's reuse planning process was included as Alternative 2. Five comments indicated a preference for the No Action alternative. One comment from the City of Concord expressed the importance of keeping map and alternative boundaries consistent between the Navy's NEPA EIS and the city's California Environmental Quality Act (CEQA) EIR. One commenter suggested a design change to the proposed action, noting that the existing railroad ROW could be removed and replaced by a through-street.

The EIS will evaluate the impacts of Alternative 1 (the Preferred Alternative, which is consistent with the Concord Reuse Area Plan). NEPA also requires the assessment of a second alternative (Alternative 2) and a No Action alternative. The Navy will not change elements of the Concord Reuse Area Plan in response to public comments; however, more specific development scenarios within the context of the Area Plan may need to be assumed in order to assess the potential impacts.

3.3.2 Transportation

Transportation concerns were noted in 13 comments. Most of the comments were submitted by neighborhood residents who expressed concern that the influx of residents and vehicles would generate more traffic in an already congested area and within the region. Specifically, residents were concerned with traffic on Concord Boulevard at the intersections of Bailey Road, Denkinger Road, and West Street, and on Bailey Road; and they noted that traffic is an issue in the vicinity of the four area schools. One commenter noted that the addition of connector streets and the increased traffic on local streets would adversely impact their neighborhood (Dana Estates). One commenter resides in the neighborhood adjacent to the North Concord BART station, where commuter traffic is a concern, and requested that the DEIS study traffic impacts and recommend reasonable solutions/mitigation. Several commenters suggested the need for a traffic study during the EIS process. Caltrans also submitted several comments in a single comment statement, suggesting that the Navy employ specific methodologies and guidance in development of the DEIS. Caltrans also commented on traffic impact fees, mitigation, and funding sources. The City of Antioch indicated its concerns regarding impacts of the reuse plan on the regional transportation network and requested that the DEIS consider the impacts and concerns contained in the Transplan Committee letter submitted to the City of Concord in 2009.

The California State Public Utilities Commission indicated that the project area includes active railroad and/or light rail tracks. The agency recommended that future development in these areas be planned with the safety of the rail corridor in mind, especially at at-grade crossings. The agency recommended that the DEIS consider pedestrian circulation patterns or destinations and compliance with the Americans with

Disabilities Act. Additionally, the comment identified mitigation measures that could be employed to address these issues.

The EIS will evaluate effects of the proposed action on transportation, traffic, pedestrians, and alternative transportation users within and around the surplus property. The EIS will include an examination of existing and future transportation conditions, including existing and future traffic volumes and levels of service, trip generation, trip distribution, and accident analyses. The EIS will also recommend potential measures to mitigate traffic impacts.

3.3.3 Land Use, Open Space, and Community Facilities/Services

Concerns related to land use, open space, and community facilities/services were noted in 11 comments. Most of the comments indicated the commenters' preference to preserve open space and natural resources both to protect wildlife and habitat and to provide users with parks and opportunities for passive recreational activities such as hiking, bicycling on trails, horseback riding, and other activities. One commenter requested that motorized sports (e.g. Motocross) be banned.

One comment indicated that a local residential developer owns land adjacent to the boundary of the former NWS Concord, including the ridge top, and that the DEIS should consider that these lands will be developed in the near future. With respect to community facilities/services, one comment requested that bus routes be provided at 15-minute intervals for access to/from the base area and Willow Pass Road. One agency recommended that future projects be served by public sewer and city water. A commenter requested that the proposed development scenarios include large percentages of single-family homes in order to be compatible with surrounding neighborhoods.

The EIS will address the property-specific plans included in the city's Area Plan, but implementation of the Reuse Plan and management of the redevelopment and construction is the responsibility of the City of Concord as the Local Redevelopment Authority (LRA). The EIS will address existing land uses and will include an evaluation of direct, indirect, and cumulative impacts on surrounding land use. The EIS also will address existing community facilities and infrastructure and the impacts of each alternative on these facilities.

3.3.4 Natural Resources

Nine comments pertained to natural resources. A community-based organization (CBO) has designated the area as one of the 15 priority plant protection areas of the East Bay, noting that the project area includes aspects of a native landscape that are worth conserving and restoring.

A state agency (Caltrans) commented that project-level activities related to habitat restoration and management should be coordinated with local and regional habitat conservation plans and with Caltrans where their programs share stewardship responsibilities for habitats, species, and/or migration routes.

Many commenters were concerned with protecting habitat from development and human impacts. These resources include the riparian corridor and 100-year floodplain setback; local wildlife; and wetlands. One commenter wants to see wetlands restored or created to attract wildlife. The same commenter requested that all development be required to use only native plants, grasses, and trees. One commenter generally noted that the EIS should evaluate the impacts of resource preservation or removal.

Several comments were concerned with local wildlife such as elk, deer, cows, coyote, turkeys, and birds as well as threatened and endangered species such as tiger salamanders, red-legged frogs, and burrowing owls.

The EIS will use recent data and will coordinate with federal and state resource agencies to address potential impacts on natural resources, soils, and water resources. The Navy will not be responsible for development of the site or for associated mitigation measures but will identify recommended mitigation measures in the DEIS.

3.3.5 Socioeconomics

Seven comments were received regarding socioeconomics. Three commenters were concerned that their property values would decrease as a result of the adjacent development and associated traffic, air quality, and noise impacts. Four commenters requested that the DEIS evaluate the number and types of jobs and economic opportunities associated with the project. The EPA indicated that the DEIS should identify indirect effects that could occur outside the project boundary, including the potential increase in off-base population and employment. One commenter added that the DEIS should study housing affordability and should identify the sources of funding for new transit service.

The EIS will study the direct, indirect, and induced socioeconomic impacts of the project alternatives. These impacts include both construction and operations employment and spending. The EIS will provide reasonable assumptions associated with the alternatives, in terms of size, number of employees, trip generation, etc. for each of the planned uses in order to present a quantitative impact assessment. Housing affordability and property values will be discussed in general terms.

The City of Concord, as the LRA, will be responsible for identifying funding sources associated with future development; the site developers will determine specific employment needs and skillsets.

3.3.6 Quality of Life

Quality of life issues were the subject of six comments. The commenters were neighborhood residents and homeowners who indicated that they moved to the area for serenity and open space, and the combined effects of additional traffic, noise, and air pollution would decrease their quality of life. One commenter noted that the city's traffic study near Denkinger Road and West Street indicated that noise pollution is beyond acceptable and questioned what could be done to minimize/mitigate air and noise pollution in the area of Concord Boulevard, Denkinger Road, and West Street.

The quality of life issues of noise, air quality, and traffic will be addressed as separate resource areas in the DEIS. The cumulative impacts on these resource areas will be evaluated, and a general assessment will be made regarding quality of life impacts.

3.3.7 Air Quality

Air quality was the subject of five comments. The EPA recommended that the DEIS provide a detailed discussion of ambient air conditions, National Ambient Air Quality Standards (NAAQS), criteria pollutant nonattainment areas, and potential air quality impacts. The EPA also recommended that the EIS provide adequate discussion on construction and operational emissions as well as mitigation measures that have been adopted in the city's reuse plan and the party responsible for implementation. Additionally, the EPA requested that the DEIS discuss the additive impacts from climate change on resources affected by the project; climate change adaptation measures; and the energy requirements and conservation potential of various alternatives and mitigation measures. The discussion should address whether any part of the energy demand for development could be met with on-site renewable energy component.

One commenter indicated that residents of Esperanza Drive are currently exposed to wind and pollution from two freeways and expressed concern about the air quality impacts resulting from additional traffic. Another commenter expressed doubt that future development would affect climate change and greenhouse gas (GHG) emissions.

The EIS will describe ambient air conditions, NAAQS, and criteria pollutant nonattainment areas; address air quality impacts; and discuss construction and operational emissions. Additionally, the EIS will discuss the additive impacts of climate change, climate change adaptation measures, and the energy requirements and conservation potential of various alternatives.

3.3.8 Water Resources/ Water Quality

Water resources and water quality were the subject of three comments. The EPA recommended that the DEIS describe all waters of the U.S. that could be affected by the project and indicated that NEPA alternatives should be crafted for consistency with Section 404 permit requirements. The East Bay Municipal Utility District noted that any activities conducted in the vicinity of their facilities could generate storm water and flooding impacts if not adequately mitigated. A resident of Esperanza Drive expressed concern about groundwater contamination resulting from cleanup activities or project construction.

The EIS will address water quality, surface water and groundwater impacts, and will recommend storm water prevention and protection measures. The EIS also will discuss the project alternatives and compliance with the Section 404 process as appropriate.

3.3.9 Cultural Resources

Cultural resources were the topic of three comments. One comment, submitted by Caltrans, indicated that the DEIS must include documentation of a current archaeological record if construction activities are proposed within the state ROW. These construction activities include but are not limited to lane widening, channelization, auxiliary lands, and/or modification of existing features such as slopes, drainage features, curbs, sidewalks, and driveways within or adjacent to the state ROW. Two residents expressed a desire to honor NWS Concord's history; one commenter suggested a display commemorating how NWS Concord served the U.S. during World War II; and the other commenter recommended tours, monuments, and plaques to honor NWS Concord servicemen and servicewomen.

The EIS will present a discussion of the Navy's compliance with the requirements under the National Historic Preservation Act (NHPA) of 1966 and other pertinent statutes. Additionally, the EIS will include the results of cultural resources survey (architecture and archaeology) that are under way. The City of Concord is responsible for implementation of the Reuse Plan and ultimately will decide how to incorporate historical memorabilia into the new development.

3.3.10 Environmental Management

Three comments were received in relation to environmental management. The EPA requested that the DEIS identify hazardous contaminants associated with the site and provide a general overview of the cleanup status. The agency recommended that for each parcel, the DEIS describe land use, the proposed cleanup remedy, and proposed development activities, and that the DEIS discuss how construction activities could come in contact with site contamination. Per the EPA, the DEIS should also provide an overview of monitoring pursuant to Superfund cleanup, including the party responsible for monitoring. A neighborhood alliance also asked that the Navy identify how environmental cleanup will be managed. One resident expressed concern about potential exposure to toxins during site remediation activities, whether through air or soil.

The EIS will describe the CERCLA process as a parallel but separate process that will ensure public health and safety of properties prior to transfer.

3.3.11 Infrastructure/Energy

Two comments were related to infrastructure/energy concerns. The key issue of concern was the implementation of sustainable practices in the redevelopment. The EPA recommended the use of standards and guidelines consistent with "green buildings" and the use of LID options to mitigate potential impacts on water quality. A resident suggested that the development incorporate a recycled water program for irrigation and asked that developers be required to include alternative energy programs in their development plans.

Infrastructure and utility requirements will be discussed in the EIS, including a discussion of Section 438 of the Energy Independence and Security Act (EISA); however, The City of Concord is responsible for the implementation of the Reuse Plan and management of property and redevelopment and will ultimately decide what, how, and where green building techniques or alternative energy elements may be incorporated.

3.3.12 Noise

One comment was submitted in relation to noise impacts. The resident was concerned with increased noise associated with the influx of residents within the project area and requested a noise study at the intersection of Concord Boulevard and Denkinger/West, and on Willow Pass and Landana Roads.

The EIS will document baseline noise conditions at various locations in the vicinity of the project area and will estimate the impacts of construction and operations noise for each alternative.

3.3.13 Required Consultations or Permit Requirements

Three agencies submitted comment statements indicating pre-construction requirements or recommendations. Eight comments were contained in these statements. Examples include Caltrans (the developer may be required to submit a Transportation Management Plan prior to construction and obtain transportation permits for oversize vehicles); East Bay Municipal Utility District (any proposed projects in the aqueduct's ROW must be submitted to EBMUD for review and approval, and may require permits); and the Contra Costa Environmental Health Division (a permit is required for any well or soil boring prior to commencing drilling activities; some closed landfills may come under the jurisdiction of the agency after transfer of the property).

The City of Concord will be responsible for development of the property following property transfer. The city will select project developers, and those developers will be required to consult with the appropriate agencies and comply with the various permit requirements during project design and prior to construction.

3.3.14 Miscellaneous Comments

Eight comments were submitted that do not fall within any of the aforementioned resource areas. Several commenters noted that the city's EIR process was comprehensive and that the Navy's EIS should utilize the previously submitted information and Final EIR findings to the maximum degree possible in order to expedite the NEPA process. One commenter requested that the NEPA process be open and inclusive. Another commenter requested that the DEIS described how weapons will be removed from the site. The USCG submitted notification that the adjacent parcel (78 housing units on the former U.S. Navy housing area in Concord) is in excess of their needs.

The Navy EIS will utilize existing information to the extent practicable during the NEPA process. The NEPA process incorporates public involvement at several points; the public is afforded opportunity to comment during scoping, after the DEIS is completed, and after the FEIS; and agencies are consulted as appropriate during development of the EIS. The EIS will describe the activities to be undertaken during disposal and transfer of the property.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
Proposed Action and Alternatives		
1	Local Agency (City of Concord)	The Navy has made a determination that a more intense land use alternative to the Area Plan is required to be part of the analysis. While the LRA is not in agreement with the necessity of such an analysis, we agree with the use of an alternative developed, and not selected, during the community planning process, as Alternative 1. We will work with the Navy and the community to make sure the purpose for inclusion of the previously eliminated alternative in the EIS is clear.
2	Local Agency (City of Concord)	Staff noticed, in looking at the graphics at Station 2 of the scoping meeting, discrepancies between the approved Concord Reuse Project Area Plan and Alternative 2 and the station exhibit. As a specific example, in the representation of the Area Plan, the green frame around the village neighborhoods was not accurately represented. This is such an important aspect of the plan to the residents that it raised a lot of negative comments from the community. The LRA would recommend that its original graphics be used.
3	Local Agency (City of Concord)	We concur with the Navy's use of the Area Plan as the preferred land use alternative for the transfer action.
4	CBO (California Native Plant Society)	The Concord Reuse Project Area Plan is described as Alternative 1 of the Navy's NOI document. East Bay CNPS was very active in providing input and supporting the plan during its development and therefore recommends Alternative 1 of the NOI be adopted so that the City of Concord can begin implementing it.
5	CBO (California Native Plant Society)	East Bay CNPS recommends that the purpose of the proposed action as described on page 2 of the NOI be modified to also include the conservation of natural resources. Modifying the purpose in this way would ensure that it is consistent with the Concord Reuse Project Area Plan, which set aside the majority of the surplus property at the CNWS for Open Space and Parks and Recreation Use.
6	CBO (California Native Plant Society)	The East Bay CNPS notes that Alternative 2 of the NOI includes less open space and fewer parks than Alternative 1 in favor of greater development intensity. We understand that a range of alternatives are required for consideration as part of an EIS, and we ask that the environmental impacts of this more intensive development plan be addressed as part of the environmental review, especially in the context of impacts on biological resources, including endangered species, geology and soils, and hydrology. We also note that Alternative 2 does not meet the stated purpose of the NOI to be consistent with the Concord Reuse Project Area Plan and that Alternative 1 is therefore the superior Alternative.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
7	CBO (Contra Costa Building Trades Council IBEW Local 302 and the Central Labor Council)	Our members and partners have a vested interest in balancing the density and availability of open space, affordable housing, good jobs, and local benefits for local residents of the base development process. I want to reiterate that we support Alternative 1 and feel that any deviation from this plan would be a mistake.
8	Concord NWS Neighborhood Alliance	The second alternative is not acceptable for residents. Though we do want the process to move forward in order to convey land for a Great Regional Park to the East Bay Regional Parks, local residents prefer less development on the CNWS.
9	Resident	I support the No Action alternative.
10	Resident	I strongly feel that the widening of Denkinger Road and West Street will result in increased traffic volumes and speeds. Extensions of these roads will kill trees and encroach on high school property. I support expansion of the North Concord BART area.
11	Resident	We are in favor of Alternative 1 because we envision 1) walks through this scenic area, 2) friend and family picnic areas, 3) nature watching over the seasons, 4) play areas for baseball, soccer, and other sports, 5) trails for hiking or walking pets. We concur that Alternative 1 will support the necessary funds for developing, advancing, and maintaining this area.
12	Resident	We recommend the site of the current railroad tracks be removed and replaced with an access road.
13	Resident	I support Alternative 1 because it keeps more open space available for wildlife and recreation and because it concentrates development near the North Concord BART station. The hills should be protected as open space as they enhance quality of life for all residents.
14	Resident	If the Navy decides to proceed with Alternative 2, it will bring additional traffic, noise, and air pollution to the neighborhood. Overall, it will reduce the quality of life in the neighborhood and damage the surrounding wildlife habitat.
15	Resident	I prefer that no action be taken on the development. Alternative 2 will result in increased noise and pollution and will greatly affect property values.
16	Resident	We oppose massive building and dense population as it brings increasing traffic and congestion.
17	Resident	Maximize the remaining natural resources on the property by protecting as much land, water etc. by retaining Alternative 1.
18	Resident	Extending West Street or Denkinger would be extremely disastrous for Concord High and the two other schools. Please don't do this.
19	Resident	No action alternative is preferred. We are opposed to Alternative 2.
20	Resident	My wish is for the No Action Alternative and that the Navy keep the property.
21	Resident	We are opposed to high density cluster housing except adjacent to the Bart Station. The Cluster homes become slums in a couple of decades.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
22	Resident	We select the No Action alternative.
Traffic and Transportation		
23	State Agency (California Public Utilities Commission)	The project site area includes active railroad and/or light rail tracks. Railroad crossings engineering section (RCES) recommends that the Navy add language to the Concord NWS so that any future development adjacent to or near the railroad/light rail ROW is planned with the safety of the rail corridor in mind. New developments may increase traffic volumes not only on streets and at intersections, but also at at-grade crossings. This includes considering pedestrian circulation patterns or destinations with respect to railroad ROW and compliance with the Americans with Disabilities Act. Mitigation measures to consider include, but are not limited to, the planning for grade separations for major thoroughfares, improvements to existing at-grade crossings due to increase in traffic volumes and continuous vandal-resistant fencing or other appropriate barriers to limit the access of trespassers onto the railroad ROW.
24	State Agency (California Department of Transportation/Caltrans)	The EIS Section on traffic should reference: 1) Vicinity map, regional location map, and a site plan clearly showing project access in relation to nearby state roadways. Ingress and egress for all project components should be clearly identified. The state ROW should be clearly identified. The maps should also include project driveways, local roads and intersections, parking and transit facilities. 2) Project-related trip generation, distribution and assignment. The assumptions and methodologies used to develop this information should be detailed in the study and supported with the appropriate documentation. 3) Average daily traffic, AM and PM peak hour volumes and LOS on all roadways where potentially significant impacts may occur, including crossroads and controlled intersections for existing, existing plus project, cumulative and cumulative plus project scenarios. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future, that would affect study area roadways and intersections. The analysis should clearly identify the project's contribution to area traffic and any degradation to existing and cumulative LOS. Caltrans' LOS threshold, which is the transition between LOS C and D, and is explained in detail in the traffic impact study (TIS) guide, should be applied to all state facilities. 4) Schematic illustration of traffic conditions including the project site and study area roadways, trip distribution percentages and volumes as well as intersection geometrics, i.e., lane

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
		configurations, for the scenarios described above. 5) The project site building potential as identified in the City of Concord's 2030 General Plan. The project's consistency with both the Circulation Element of the General Plan and the Congestion Management Agency's Congestion Management Plan should be evaluated. 6) Identification of mitigation for any roadway mainline section or intersection with insufficient capacity to maintain an acceptable LOS with the addition of project-related and/or cumulative traffic. As noted above, the project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should also be fully discussed for all proposed mitigation measures. 7) Identify traffic impact fees for development plans, requiring traffic impact fees that are based on projected traffic and on associated cost estimates for public transportation facilities necessitated by development. 8) Scheduling and costs associated with planned improvements on the state's ROW should be listed, in addition to identifying viable funding sources correlated to the pace of roadway improvements. 9) Cumulative impacts should also be considered where alternatives contemplate work that would affect state ROW such as any transportation or hazardous material on the state ROW, tree removal, seasonal wetlands, and water quality impacts. 10) The Concord, North Concord/Martinez, and Pittsburg/Bay Point BART stations. 11) Bicycle and pedestrian facilities. 12) All traffic impacts not fully studied in the Concord Community Reuse Project Draft EIR.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
25	State Agency (California Department of Transportation/Caltrans)	Identify traffic impact fees to be used for project mitigation. Development plans should require traffic impact fees based on projected traffic and/or based on associated cost estimates for public transportation facilities necessitated by development. Scheduling and costs associated with planned improvements on the state's ROW should be listed, in addition to identifying viable funding sources correlated to the pace of roadway improvements, if any. DOD should work with the city and Transportation partnership and cooperation (TRANSPAC) on the Subregional Transportation Mitigation Program to mitigate and plan for the impact of future growth on the regional transportation system.
26	Local Agency (City of Antioch)	The City of Antioch continues to have significant concerns regarding impacts of a reuse plan on the regional transportation network. It is requested that the EIS also consider and study the impacts and concerns contained in the Transplan Committee's 2009 letter to the City of Concord (attached).
27	Concord NWS Neighborhood Alliance	We are concerned about significant traffic impacts throughout the City of Concord, as well as regional traffic impacts. We are most concerned about traffic impacts on Concord Blvd., especially at the intersections of Bailey Road, Denkinger Road, and West Street. There are 4 schools located in the area of Concord Blvd. between Denkinger Road and West Street. During the school year these schools alone cause major traffic congestion. On rainy days Concord Blvd. in the area of the 4 schools is a parking lot, with major congestion. What will be done to minimize congestion in these areas?
28	Resident	The EIS should evaluate traffic congestion impacts and identify ways to plan for this congestion.
29	Resident	Traffic is already a big problem. There are 4 schools at Denkinger/West Street and Concord Boulevard.
30	Resident	Concerned with traffic impacts on Bailey Road and Landana.
31	Resident	Will there be access to the development from Lynwood Drive?
32	Resident	The extensions of West Street and Denkinger are going to be major access roads and, according to the map (shown at the scoping meeting), look inadequate and dangerous by the 3 public, 1 private school.
33	Resident	Traffic issues are of paramount interest to the community.
34	Resident	Current proposal would destroy the Dana Estates neighborhood by adding connector streets and increasing traffic on local streets.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
35	Resident	My home is the neighborhood adjacent to the North Concord Bart Station where the proposed development is being considered. There is only one exit and one entrance to this property. At commute time our streets are inundated with cars. The cars can either turn right to exit to Highway 4 or empty through our neighborhood to add traffic congestion on our streets. Right now Concord has a population of 122,000 residents. With this new plan the city will add 33,000 residents plus commercial development, which will cause an all-day traffic situation. I hope you have done a complete study of the project and are realistic about the problems involved. I hope you can arrive at a reasonable solution for our residents.
Land Use, Open Space, and Community Facilities/Services		
36	Local Agency (Contra Costa Environmental Health Division)	It is recommended that projects be served by public sewer and city water.
37	Concord NWS Neighborhood Alliance	Residents request that maximum open space be preserved for both active and passive parks. We request no roads east of Mt. Diablo Creek. The area south of Bailey Road should be preserved and protected from development. Residents fully support a large regional park on this site. Seeno/Discovery Homes owns the ridge top and adjacent land; be aware that this area will be developed in the future.
38	Concord NWS Neighborhood Alliance	The Navy should be aware that Seeno/Discovery Homes and other Seeno development companies own the ridge top and the land directly adjacent to the CNWS (in Pittsburg) and have development plans in place. Although this area appears to be open space now, it will be developed.
39	CBO (Contra Costa Building Trades Council IBEW Local 302 and the Central Labor Council)	This property will be used by myself and my entire family when opened up, built out and developed. I look forward to hiking the ridges, visiting family and enjoying nightlife on the former base.
40	Resident	Recreational activities should be non-invasive to wildlife and should include hiking, horseback riding, and bicycling on trails. Motor cross and other active recreational activities should be banned.
41	Resident	Our request would be to preserve as much open space as possible and develop it into parks, recreation areas and walking trails for residents and guests.
42	Resident	We need more open space and a large greenbelt between existing homes. Protect trees that were planted alone fence lines. There are a lot of beautiful 45-year old pine trees. Many families bought their homes because they were told it would always be open space.
43	Resident	The open space area should be protected from the human impacts of air, noise, water, soil and other pollutants and a buffer zone established around the natural lands.
44	Resident	I want to mandate bus routes at 15-minute intervals in the base area and Willow Pass.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
45	Resident	Bunkers or park landscapes are issues that have involved the community.
46	Resident	We desire a good percentage of single-family homes be built to be compatible with the surrounding single-family subdivisions.
Natural Resources		
47	State Agency (California Department of Transportation/Caltrans)	Project level activities related to habitat restoration and management should be done in coordination with local and regional habitat conservation plans and with Caltrans where our programs share stewardship responsibilities for habitats, species, and/or migration routes.
48	CBO (California Native Plant Society)	EBCNPS has designated this area as one of the 15 priority plant protection areas of the East Bay. This large expanse of valley grassland (which occupies most of the site) connects an intact mosaic of saline bayland habitats with uplands that extend into the summits of Mt. Diablo. This crucial strip of land sits in one of the least developed urban watersheds that connects mountains to marshes. The project area being considered in this EIS includes aspects of a native landscape that are worth conserving and restoring.
49	Concord NWS Neighborhood Alliance	Our experiences with California Fish and Game on the CNWS have not been pleasant, e.g.,, removal of elk, tree trimming during nesting season. We request that wildlife and endangered species be preserved, including but not limited to burrowing owls, tiger salamanders, and red-legged frogs. Local residential developers destroy ponds and endangered wildlife, pay a fine and continue building. We do not want to see this type of destruction in the development of the CNWS. All species of wildlife in the CNWS should be preserved.
50	Resident	The EIS should evaluate the impacts of resource preservation or removal.
51	Resident	I hope the elk return and will have a dedicated space.
52	Resident	I would like to see wetlands restored or new wetlands created to create wildlife habitat. All development should be required to use only native plants, grasses, and trees.
53	Resident	We have been fortunate to enjoy the wildlife such as elk, deer, cows, turkeys and a large variety of birds. Please save this beautiful area.
54	Resident	We hate to see the wildlife disappear. This has been a wonderful home for elk, deer, turkeys, coyote. Orioles return to nest every year.
55	Resident	The riparian corridor, inclusive of the 100-year floodplain setback, should be protected from human impact.
Socioeconomics		
56	Federal Agency (EPA)	The DEIS should identify indirect effects that could occur outside the project boundary that is induced by the development within the base boundary, including the potential for population and employment to occur off-base as a result of the project development.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
57	CBO (Contra Costa Building Trades Council IBEW Local 302 and the Central Labor Council)	This piece of land will be the crown jewel of CCC and our members look forward to the build out. Apprentices and journeymen will be involved throughout their careers in the process.
58	Resident	The EIS should evaluate the types of jobs and economic development opportunities associated with the proposed action and should identify the types of skills and education needed to obtain these jobs.
59	Resident	The DEIS should study housing affordability and where the resources will come from for the new transit service. Will local people get jobs? Are there ways to ensure that they do?
60	Resident	I am concerned about property values.
61	Resident	Consider home values. Who would want to purchase my home?
62	Resident	The value of the property cannot help but decrease due to the negatives inherent in the development plan proposed
Quality of Life		
63	Concord NWS Neighborhood Alliance	Stonebrook Convalescent Home is located in the same area. Due to the nature of this business, fire trucks and ambulances visit the facility daily. Although the city's traffic study near Denkinger Rd. and West Streets was not conducted during the peak morning traffic period, it indicated that noise pollution in that area is already beyond acceptable. Adding traffic to these areas will increase the already high air and noise pollution. What will be done to minimize air and noise pollution in the area of Concord Blvd/Denkinger/West Streets?
64	Resident	Air quality and noise are issues.
65	Resident	What is going to happen to the quality of life for homeowners on Willow Pass Road? It appears that traffic will double, based on the proposed housing. Will it be possible to be offered a way out? Please consider traffic control, noise control, etc. for homeowners.
66	Resident	My issue is traffic and quality of life in our neighborhood. Denkinger and West are bad enough now. We do not need an extra burden in the area. If the school district changes its mind and decides to add 400 more students due to the closing of more schools, then widening the streets to accommodate the villages will really impact our lives.
67	Resident	I bought my home largely due to the open space backing up to the homes directly across the street for the serenity and lack of traffic. I do not appreciate that the serenity will be shattered by cutting through Denkinger, increasing traffic, noise, pollution, while decreasing quality of life.
68	Resident	The traffic, noise and pollution would be disastrous and certainly change our lives.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
Air Quality		
69	Federal Agency (EPA)	The DEIS should provide a detailed discussion of ambient air conditions, NAAQS, and criteria pollutant nonattainment areas, and potential air quality impacts (including cumulative and indirect impacts). Emissions should be estimated for the construction and operational phases, and mitigation measures discussed. The DEIS should address the applicability of CAA Section 176 and EPA's general conformity regulations at 40 CFR Parts 51 and 93. The San Francisco Bay Area is designated as nonattainment for NAAQS for particulate matter less than 2.5 microns and for 8-hour ozone and as maintenance area for carbon monoxide. The DEIS should ensure all reasonable mitigation measures have been identified to reduce these pollutants for both the construction and operational phases. Identify mitigation measures that have been adopted in the city's reuse plan and the party responsible for implementation.
70	Federal Agency (EPA)	Climate change is likely to contribute cumulative impacts on some resources, including water, air, and biological resources. The additive impacts from climate changes on resources affected by the project should be discussed. Climate change effects on the project itself, and any recommended adaptation measures, should also be discussed. Additionally, discuss the energy requirements and conservation potential of various alternatives and mitigation measures as required by 40 CFR 1502.16(e). Include a discussion as to whether any part of the energy demand for the development could be met with onsite renewable energy components.
71	Resident	I am concerned about air quality in my neighborhood on Esperanza Drive. We are exposed to wind from two freeways (4 and 242). I am concerned about the dust inside of our dual pane windows.
72	Resident	A hill next to the Bart Station will be leveled and this hill currently helps us not to breathe fumes directly from Freeway 4.
73	Resident	Climate change and GHG emissions are the current fad. This project will make zero difference regardless of the option selected.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
Water Resources/Water Quality		
74	Federal Agency (EPA)	The DEIS should describe and identify all waters of the U.S. that could be affected by the project alternatives, and include maps that clearly identify all waters within the project area. The discussion should include the acreages and channel lengths, habitat types, values and functions of these waters. If a Section 404 permit is required, the project must comply with Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials (40 CFR 230). Pursuant to 40 CFR 230, any permitted discharge into waters of the U.S. must be the least environmentally damaging practicable alternative available to achieve the project purpose. If possible, the DEIS should include and craft NEPA alternatives consistent with evaluating project alternatives in this context to demonstrate the project's compliance with the Section 404 guidelines. Since the Corps of Engineers is a cooperating agency for this project, discuss the 404 permit process and the alternatives that will be part of the 404(b)(1) alternatives analysis. If, under the proposed project, dredged or fill material would be discharged into waters of the U.S., the DEIS should discuss alternatives to avoid those discharges.
75	Local Agency (East Bay Municipal Utility District)	The aqueduct's Right-of-Way (R/W) runs parallel to and west of State Highway 242 running north. It then crosses under State Highway 4 and continues north along the eastern toe of Contra Costa Water District's Mallard Reservoir and continues parallel to the Port Chicago Highway and then crosses Port Chicago Highway north of the NWS Concord entry road. Any development within the NWS Concord property has potential to increase encroachment onto the EBMUD aqueduct R/W and impact safety and security of EBMUD facilities. Any development of NWS Concord inland area may impact EBMUD due to increased encroachments onto R/W by utility agencies, the city and developers; and to generate storm water and flooding impacts on the aqueduct's R/W and Clyde Wasteway if drainage impacts are not adequately addressed. The Mt. Diablo Creek, which crosses the aqueducts R/W north of Mallard Reservoir, may be impacted by the increased runoff due to the development within the NWS Concord property and can have potential to increase the creek's flow, thus posing a risk to EBMUD's property and infrastructure.
76	Resident	I am concerned about groundwater contamination.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
Cultural Resources		
77	State Agency (California Department of Transportation/Caltrans)	A project environmental document must include documentation of a current archaeological record from the Northwest Information Center of the California Historical Resources Information System if construction activities are proposed within state ROW. Current record searches must be no more than five years old. The requirements and applicable mitigation must be fulfilled before an encroachment permit can be issued for project-related work in a state ROW; these requirements also apply to NEPA documents when there is a federal action such as on this project. Work subject to these requirements includes, but is not limited to, lane widening, channelization, auxiliary lands, and/or modification of existing features such as slopes, drainage features, curbs, sidewalks and driveways within or adjacent to State ROW.
78	Resident	We wish to see a museum which contains a display of how the NWS Concord served the U.S.A. during World War II.
79	Resident	We should honor our servicemen and women and history of the Naval Weapons Station with tours, monuments, and plaques.
Environmental Management		
80	Federal Agency (EPA)	The DEIS should identify hazardous contaminants that are associated with site parcels and provide general overview of the status of the cleanup pursuant to the CERCLA/Superfund. It is important that the DEIS include information regarding how the proposed development would interface with cleanup remedies. The DEIS should indicate whether the physical development of the proposed action could expose construction workers, visitors, occupants, or ecological systems to potential hazards associated with contaminants. The EPA recommends that the DEIS discuss the proposed land use for each cleanup parcel for each alternative, identify cleanup remedy for that parcel, and describe the proposed development activities that would occur there during construction. The DEIS should discuss how construction activities could come in contact with any contamination that may remain on-site and if/how the development might affect the final remedy. The DEIS should disclose if the development is part of the remedy (i.e., capping). The DEIS should provide an overview of any monitoring that would occur pursuant to the Superfund cleanup, including the party responsible for monitoring.
81	Concord NWS Neighborhood Alliance	Current residents have great concerns about breathing hazardous materials once cleanup and dirt removal begins. How will the Navy deal with hazardous cleanup, and how will we be protected?
82	Resident	We are concerned about the various toxins being released in air in cleanup or leaching through the soil to our irrigation wells when the development begins.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
Infrastructure/Energy		
83	Federal Agency (EPA)	DEIS should identify measures that would be adopted to demonstrate how storm water flows from increases in impervious surfaces will be addressed to prevent flow increases above pre-development levels, consistent with Section 438 of the Energy Independence and Security Act. Refer to Technical Guidance on Section 438 of the Energy Independence and Security Act, which generally focuses on retaining rainfall on-site through infiltration, evaporation/transpiration, and re-use to the same extent as occurred prior to redevelopment. Federal agencies can comply with Section 438 by using a variety of storm water management practices often referred to as green infrastructure or low-impact development practices, including, for example, reducing impervious surfaces, using vegetative practices, porous pavements, cisterns, and green roofs.
84	Resident	The development is an opportunity to install plumbing for recycled water. The appropriate agencies should collaborate to develop a recycled water program for irrigation. The developer should be required to include alternative energy like solar and wind in their development plans.
Noise		
85	Resident	We need a noise study at the intersection of Concord Boulevard and Denkinger/West. With the addition of 15,000 people on the base in three villages, there will be thousands of additional noise makers on these routes past the schools. Also need a noise study at Willow Pass and Landana area.
Required Consultations/Permit Requirements		
86	State Agency (California Department of Transportation/Caltrans)	Caltrans and the CCTA are working on widening the SR4 corridor along with proposed projects at the SR and Interstate (I)-680 interchange. The DOD needs to coordinate their projects with Caltrans, CCTA, and the city. Caltrans has plans for several projects of concern on SR-4 and I-680 in the vicinity of the city including, but not limited to, 1) modifying the interchange between I-680 and SR4, 2) widening SR 4 between Somersville Road and SR 160, and 3) reconstructing the Loveridge road interchange on SR4.
87	State Agency (California Department of Transportation/Caltrans)	If traffic restrictions and detours are needed on or affecting state highways, a transportation management plan (TMP) or construction traffic impact study may be required of the developer prior to construction. TMPs must be prepared in accordance with California Manual on Uniform Traffic Control Devices.
88	State Agency (California Department of Transportation/Caltrans)	Project work that requires movement of oversized or excessive load vehicles on state roadways requires a transportation permit that is issued by Caltrans.

Table 3-3 Summary of Scoping Comments

	Stakeholder Name	Comment
89	State Agency (California Department of Transportation/Caltrans)	Please be advised that any work or traffic control that encroaches onto the state ROW requires an encroachment permit that is issued by Caltrans. Traffic-related mitigation measures should be incorporated into the construction plans prior to the permit process.
90	Local Agency (East Bay Municipal Utility District)	EBMUD has the following additional comments regarding any proposed activity within the aqueduct R/W: zoning shall not be changed on the R/W; any proposed projects or changes to the area in the vicinity of the aqueduct's R/W must be submitted to EBMUD for review, comment and approval and may require permits from EBMUD: no longitudinal encroachments (e.g., drainage ditches, utility lines, pipelines, roads) are permitted within the aqueduct R/W. Various construction mitigation measures must be followed during development (security fencing, required clearance and siting of infrastructure; shutoff valves, gravity drainage, etc.). EBMUD must approve each design and protective/control devices. Additional requirements are outlined in the letter and must be followed prior to construction.
91	Local Agency (Contra Costa Environmental Health Division)	A permit from the CCEHD is required for any well or soil boring prior to commencing drilling activities, including those associated with water supply, environmental investigation and cleanup, or geotechnical investigation.
92	Local Agency (Contra Costa Environmental Health Division)	Any abandoned wells and septic tanks must be destroyed under permit from CCEHD. If the existence of such wells or septic tanks are known in advance or discovered during construction or other activities, these must be clearly marked, kept secure, and destroyed pursuant to CCEHD requirements.
93	Local Agency (Contra Costa Environmental Health Division)	The CCEHD is the local enforcement agency for solid waste facilities, including landfills, closed landfills, transfer stations, and waste tire generators and haulers. There are some closed landfills on the property that may come under the jurisdiction of the local enforcement agency when the property is transferred from federal control.
Miscellaneous Comments		
94	Federal Agency (U.S. Coast Guard)	This letter informs you of Coast Guard activities on adjacent property which may affect your Environmental Impact Statement. Specifically, the Coast Guard has made a preliminary determination that 78 housing units located on the adjacent parcel are excess to our needs. This location is the former U.S. Navy housing area in Concord, CA. The Navy has not completed the NEPA analysis related to the site, and thus has not reached a decision on potential disposal methods.

Table 3-3 Summary of Scoping Comments

Stakeholder Name		Comment
95	Local Agency (City of Concord)	To help expedite the EIS process and ensure consistency between the federal and state analyses we encourage the Navy to use the Final EIR to the maximum degree possible. We note that the analyses associated with traffic impacts and related quality of life impacts on air quality and noise are particularly important to the community and need to be coordinated with the FEIR findings.
96	Local Representative (Dan Helix, Mayor)	Hopefully the approved, unchallenged EIR of the City of Concord can be fully utilized in fulfilling the NEPA requirements so we can accelerate delivering the property to the City.
97	CBO (California Native Plant Society)	We recommend that the Navy utilize as much of the information gained during the CEQA EIR process as possible in order to expedite this secondary review process.
98	CBO (California Native Plant Society)	EBCNPS hopes that federal budget sequestration will not impede this project from moving forward to completion, especially since the majority of the required environmental studies have already been completed as part of the CEQA EIR.
99	CBO (Contra Costa Building Trades Council IBEW Local 302 and the Central Labor Council)	The city has held and continues to have an open and inclusive process for the base development. We have been involved in every step of the way and hope that this continues.
100	Resident	Health impacts of the full build out should be evaluated in the EIS, especially (EJ) areas.
101	Resident	The EIS should describe how weapons will be removed from the site.

Appendix A: Public Notification Material

the Need for a NOAA Environmental Data Management Framework; (5) Proposal for a RESTORE Act Working Group; (6) Membership for the Climate Working Group; and (7) Updates from SAB Working Groups.

FOR FURTHER INFORMATION CONTACT: Dr. Cynthia Decker, Executive Director, Science Advisory Board, NOAA, Rm. 11230, 1315 East-West Highway, Silver Spring, Maryland 20910. (Phone: 301–734–1156, Fax: 301–713–1459. Email: *Cynthia.Decker@noaa.gov;* or visit the NOAA SAB Web site at *http://www.sab.noaa.gov.*

Dated: March 8, 2013.

Jason Donaldson,

Chief Financial Officer/Chief Administrative Officer, Office of Oceanic and Atmospheric Research, National Oceanic and Atmospheric Administration.

[FR Doc. 2013–05899 Filed 3–13–13; 8:45 am]

BILLING CODE 3510–KD–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XC059

Endangered Species; File No. 17022

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Issuance of permit.

SUMMARY: Notice is hereby given that the NMFS Pacific Islands Fisheries Science Center (PIFSC; Samuel Pooley, Ph.D., Responsible Party), has been issued a permit to take green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricata*) sea turtles for purposes of scientific research.

ADDRESSES: The permit and related documents are available for review upon written request or by appointment in the following offices:

Permits and Conservation Division, Office of Protected Resources, NMFS, 1315 East-West Highway, Room 13705, Silver Spring, MD 20910; phone (301) 427–8401; fax (301) 713–0376; and

Pacific Islands Region, NMFS, 1601 Kapiolani Blvd., Rm 1110, Honolulu, HI 96814–4700; phone (808) 944–2200; fax (808) 973–2941;

FOR FURTHER INFORMATION CONTACT: Amy Hapeman or Rosa L. González, (301) 427–8401.

SUPPLEMENTARY INFORMATION: On June 25, 2012, notice was published in the **Federal Register** (77 FR 37877) that a request for a scientific research permit to take green and hawksbill sea turtles had been submitted by the above-named organization. The requested permit has been issued under the authority of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*), and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR parts 222–226).

The PIFSC is authorized to begin long-term monitoring of green and hawksbill sea turtles in the remote U.S. Islands and Territories excluding Hawaii in the Central Pacific to estimate sea turtle abundance, size ranges, health status, habitat use, foraging ecology, local movements, and migration routes. Researchers may capture, examine, measure, flipper and passive integrated transponder tag, weigh, skin and blood sample, and/or attach transmitters on sea turtles before release. Researchers also may collect the carcasses, tissues and parts of dead sea turtles encountered during surveys. The permit is valid for five years.

Issuance of this permit, as required by the ESA, was based on a finding that such permit (1) Was applied for in good faith, (2) will not operate to the disadvantage of such endangered or threatened species, and (3) is consistent with the purposes and policies set forth in section 2 of the ESA.

Dated: March 11, 2013.

P. Michael Payne,

Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2013–05896 Filed 3–13–13; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Technical Information Service

National Technical Information Service Advisory Board

AGENCY: National Technical Information Service, Commerce.

ACTION: Notice of Open Meeting.

SUMMARY: This notice announces the next meeting of the National Technical Information Service Advisory Board (the Advisory Board), which advises the Secretary of Commerce and the Director of the National Technical Information Service (NTIS) on policies and operations of the Service.

DATES: The Advisory Board will meet on Friday, April 19, 2012 from 9:00 a.m. to approximately 4:30 a.m.

ADDRESSES: The Advisory Board will be held in Room 115 of the NTIS Facility at 5301 Shawnee Road, Alexandria, Virginia 22312. Please note admittance instructions under the **SUPPLEMENTARY INFORMATION** section of this notice.

FOR FURTHER INFORMATION CONTACT: Mr. Bruce Borzino, (703) 605–6405, *bborzino@ntis.gov.*

SUPPLEMENTARY INFORMATION: The NTIS Advisory Board is established by Section 3704b(c) of Title 15 of the United States Code. The charter has been filed in accordance with the requirements of the Federal Advisory Committee Act, as amended (5 U.S.C. App.).

The morning session will focus on a review of NTIS performance in the first half of Fiscal Year 2013. The afternoon session is expected to focus on program plans for the remainder of Fiscal Year 2013. A final agenda and summary of the proceedings will be posted at NTIS Web site as soon as they are available (*http://www.ntis.gov/about/advisorybd.aspx*).

The NTIS Facility is a secure one. Accordingly persons wishing to attend should call the NTIS Visitors Center, (703) 605–6040, to arrange for admission. If there are sufficient expressions of interest, up to one-half hour will be reserved for public comments during the afternoon session. Questions from the public will not be considered by the Board but any person who wishes to submit a written question for the Board's consideration should mail or email it to the NTIS Visitor Center, *bookstore@ntis.gov,* not later than April 10, 2013.

Dated: March 11, 2013.

Bruce Borzino,

Director.

[FR Doc. 2013–05918 Filed 3–13–13; 8:45 am]

BILLING CODE 3510–04–P

DEPARTMENT OF DEFENSE

Department of the Navy

Notice of Intent To Prepare an Environmental Impact Statement for the Disposal and Reuse of the Naval Weapons Station Seal Beach Detachment Concord, City of Concord, California, and To Announce Public Scoping Meetings

AGENCY: Department of the Navy, DoD.

ACTION: Notice.

SUMMARY: Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as implemented by the Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500–1508), the Department of the Navy (DoN) announces its intent to prepare an Environmental Impact Statement (EIS)

to evaluate the potential environmental consequences of the disposal and reuse of surplus property at the former Naval Weapons Station Seal Beach Detachment Concord (NWS Concord), Concord, Contra Costa County, California. In accordance with NEPA, before disposing of any real property, the DoN must analyze the environmental effects of the disposal of the NWS Concord property. A 30-day public scoping period is being held to receive comments on the scope of the EIS, including the range of actions, alternatives, and environmental concerns that should be addressed. Public scoping meetings will also be held in the City of Concord, California, to provide information and receive written comments on the scope of the EIS. Federal, state, and local agencies and interested individuals are invited to comment on the scope of the EIS and attend the public scoping meeting.

Dates and Addresses: Two public scoping meetings will be held on Thursday, April 4, 2013 at 4:00–6:00 p.m. and 7:00–9:00 p.m. at the Concord Senior Citizens Center (Wisteria Room), 2727 Parkside Circle, Concord, California, 94519. DoN representatives will be available to provide clarification as necessary related to the EIS. There will not be a formal presentation.

FOR FURTHER INFORMATION CONTACT: Director, NAVFAC BRAC PMO West, Attn: Mr. Ronald Bochenek, 1455 Frazee Road, Suite 900, San Diego, California 92108–4310, telephone 619–532–0906, fax 619–532–9858, email: *ronald.bochenek.ctr@navy.mil*.

For more information on the NWS Concord EIS visit the DoN BRAC PMO Web site (*http://www.bracpmo.navy.mil*).

SUPPLEMENTARY INFORMATION: In 2005, a portion of NWS Concord was designated for closure under the authority of Public Law 101–510, the Defense Base Closure and Realignment Act of 1990, as amended. At the time, the former NWS Concord comprised two major land holdings— (1) the Tidal Area, along Suisun Bay and (2) the Inland Area, within the City of Concord. In 2008, the Tidal Area and 115 acres of the Inland Area were transferred to the U.S. Army and is now the Military Ocean Terminal Concord (6,419 acres in total). In addition, approximately 59 acres of the Inland Area, which supported military housing, was transferred to the U.S. Coast Guard. The remaining 5,038 acres of the Inland Area was declared surplus to the needs of the federal government on May 6, 2007 (72 FR 9935) and its disposal and reuse is the focus of this EIS.

The purpose of the proposed action is the disposal of surplus property at NWS Concord from federal ownership and its subsequent reuse in a manner consistent with the Concord Reuse Project Area Plan, as adopted by the City of Concord on January 24, 2012. The need for the proposed action is to provide the local community the opportunity for economic development and job creation. The DoN is the action proponent for the proposed action. The U.S. Army Corps of Engineers has requested to serve as a Cooperating Agency.

To assess the potential impacts of the proposed action, the DoN will evaluate two property reuse alternatives and a No Action Alternative. Alternative 1 is the reuse of the property in a manner consistent with the Concord Reuse Project Area Plan. Alternative 2 consists of a greater amount of residential and mixed-use development. Alternative 2 includes elements of the Connected Villages Alternative (Alternative 2) assessed in the 2008 Draft Environmental Impact Report of the City of Concord's Reuse Plan conducted in compliance with the California Environmental Quality Act. The No-Action Alternative is evaluated in detail in this EIS as prescribed by CEQ regulations. Both reuse alternatives assume full build-out over a 25-year period; the period of analysis will be during construction and when full build-out has been completed.

Alternative 1 is the disposal and reuse of surplus property at the former NWS Concord in a manner consistent with the Concord Reuse Project Area Plan. Under Alternative 1, approximately 69% of the property would be maintained as conservation, parks, or recreational land uses, and 31% would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses. Development on the site would involve up to a maximum of 12,272 housing units and 6,100,000 square feet of commercial space over a total development footprint of approximately 1,545 acres. The remaining portion of the property would be utilized for conservation, parks, or recreational land uses, including a 2,537 acre regional park, which would encompass the east side of the property along the ridgeline of the Los Medanos Hills. The western side of the property would be developed as a series of mixed-use development districts, with higher development densities at the north end of the property, near State Route 4 and the North Concord/Martinez Bay Area Rapid Transit (BART) station, and lower density residential villages as you move south towards Bailey Road. The development districts would be serviced by local and connector streets and two new through-streets, Los Medanos Boulevard running north/south from the BART station and Delta Road running east/west paralleling Highway 4. In addition, the transportation network will include a high-capacity bus transit service that will connect the development to BART, downtown Concord, and the surrounding neighborhoods.

Alternative 2 would include a greater amount of development throughout the site, as approximately 60% of the property would be maintained as conservation, parks, or recreational land uses, and approximately 40% would be mixed-use development, including a mix of office, retail, hotel, residential, and community/institutional land uses. Development on the site would involve up to a maximum of 13,000 housing units, and 7,900,000 square feet of commercial space over a total development footprint of approximately 2,000 acres. The transportation network will include a high-capacity bus transit service throughout the site connecting the villages to downtown Concord and existing neighborhoods. An arterial road connecting Bailey Road and Willow Pass Road would be included east of Mt. Diablo Creek. Alternative 2 is included for the purposes of the NEPA analysis and does not imply a change to the City of Concord's adopted Area Plan and 2030 General Plan, which is the result of a public planning process. The DoN has no role in the community planning process.

The No Action Alternative is required by NEPA and evaluates the impacts at NWS Concord in the event that the surplus property is not disposed. Under this alternative the property would be retained by the DoN in caretaker status. No reuse or redevelopment would occur under this alternative.

The EIS will address potential direct, indirect, short-term, long-term, and cumulative impacts on the human and natural environments, including but not limited to potential impacts on topography, geology and soils; water resources; biological resources; air quality; greenhouse gases and climate change; noise; infrastructure and utilities; transportation, traffic, and circulation; cultural resources; land use; socioeconomics and environmental justice; hazards and hazardous substances; and public services. Known areas of concern associated with the proposed action include impacts on biological and cultural resources, impacts on local traffic patterns resulting from reuse scenarios, and the

cleanup of installation remediation sites.

The DoN is initiating a 30-day scoping period to receive comments on the scope of the EIS, including the range of actions, alternatives, and environmental concerns that should be addressed. Public scoping meetings will be held in the City of Concord, California, to provide information and receive written comments on the scope of the EIS. Federal, state, and local agencies and interested individuals are encouraged to comment on the scope of the EIS or attend the public scoping meetings. To be most helpful, scoping comments should clearly describe specific issues or topics that the commenter believes the EIS should address.

Comments can be made in the following ways: (1) Written comments at the scheduled public scoping meetings; or (2) written comments mailed to the DoN BRAC PMO address in this notice; or (3) written comments faxed to the DoN BRAC PMO fax number in this notice; or (4) comments submitted via email using the DoN BRAC PMO email address in this notice.

Written comments must be postmarked, faxed, or emailed by midnight Friday, April 19, 2013, and sent to: Director, NAVFAC BRAC PMO West, Attn: Mr. Ronald Bochenek, 1455 Frazee Road, Suite 900, San Diego, California 92108–4310, telephone 619–532–0906, fax 619–532–9858, email: *ronald.bochenek.ctr@navy.mil*.

Requests for special assistance, sign language interpretation for the hearing impaired, language interpreters, or other auxiliary aids for the scheduled public scoping meetings must be sent by mail or email by Friday, March 29, 2013 to the address provided in this notice.

C.K. Chiappetta,

Lieutenant Commander, Office of the Judge Advocate General, U.S. Navy, Federal Register Liaison Officer.

[FR Doc. 2013–05925 Filed 3–13–13; 8:45 am]

BILLING CODE 3810–FF–P

DEPARTMENT OF DEFENSE

Department of the Navy

Notice of Intent To Prepare the Commonwealth of the Northern Mariana Islands Joint Military Training Environmental Impact Statement/ Overseas Environmental Impact Statement

AGENCY: Department of the Navy, DoD.

ACTION: Notice of intent.

SUMMARY: Pursuant to section (102)(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as implemented by the Council on Environmental Quality Regulations (40 Code of Federal Regulations parts 1500–1508), and Executive Order 12114, and United States (U.S.) Marine Corps NEPA implementing regulations in Marine Corps Order P5090.2A, Marine Corps Forces, Pacific (MARFORPAC), as the Executive Agent designated by the U.S. Pacific Command (PACOM), announces its intent to prepare an Environmental Impact Statement (EIS)/Overseas EIS (OEIS) to evaluate the potential impacts associated with preliminary alternatives for meeting PACOM Service Components' unfilled unit level and combined level military training requirements in the Western Pacific. The proposed action is to establish a series of live-fire and maneuver Ranges and Training Areas (RTAs) within the Commonwealth of the Northern Mariana Islands (CNMI) to meet this purpose.

Existing Department of Defense (DoD) RTAs and support facilities in the Western Pacific, particularly those in the Mariana Islands, are insufficient to support PACOM Service Components' U.S. Code (U.S.C.) Title 10 training requirements for the region. The expansion of existing RTAs and construction of new RTAs will satisfy identified training deficiencies for PACOM forces that are based in or regularly train in the CNMI. These RTAs will be available to U.S. forces and their allies on a continuous and uninterrupted schedule. These RTAs are needed to support ongoing operational requirements, changes to U.S. force structure and geographic positioning of forces, and U.S. training relationships with allied nations.

MARFORPAC, as the Executive Agent, has invited the Federal Aviation Administration (FAA); International Broadcasting Bureau (IBB); U.S. Army Corps of Engineers; National Marine Fisheries Service; U.S. Fish and Wildlife Service; and U.S. Department of Interior, Office of Insular Affairs, to participate as cooperating agencies in the preparation of the EIS/OEIS. MARFORPAC has also developed a Memorandum of Understanding with the military services regarding their support and engagement in the development of the EIS/OEIS.

MARFORPAC encourages governmental agencies, private-sector organizations, and the general public to participate in the NEPA process for the EIS/OEIS. MARFORPAC is initiating the scoping process for the EIS/OEIS with this Notice of Intent (NOI). Scoping assists MARFORPAC in identifying community concerns and specific issues to be addressed in the EIS/OEIS. All interested parties are invited to attend the scoping meetings and are encouraged to provide comments. MARFORPAC will consider these comments in determining the scope of the EIS/OEIS.

DATES: Three public scoping meetings, using an open-house format, will be held on the following dates and locations in the CNMI:

- Wednesday, April 10, 2013, 5:00 p.m. to 8:00 p.m., Dandan Elementary School Cafeteria, Dandan Road, Dandan, Saipan, CNMI 96960
- Thursday, April 11, 2013, 4:00 p.m. to 7:00 p.m., Tinian Gym, San Jose, Tinian, CNMI 96950
- Friday, April 12, 2013, 5:00 p.m. to 8:00 p.m., Carolinian Utt, Garapan, Saipan, CNMI 96960

Concurrent with the NEPA process, MARFORPAC is initiating National Historic Preservation Act Section 106 Consultation to determine the potential effects of the proposed action on historic properties. During each of the above meetings, MARFORPAC will hold Section 106 meetings in a separate area where subject matter experts will explain the Section 106 process and solicit public input on the identification of historic properties and potential effects of the proposed action on historic properties.

Comments on the proposed action and preliminary alternatives may be submitted during the 45-day public scoping comment period. Comments should be postmarked or received by April 29, 2013, Chamorro Standard Time (ChST). There are three ways to submit written comments: (1) providing comments at one of the public scoping meetings; (2) submitting comments through the project Web site: *www.cnmijointmilitarytrainingeis.com*; and (3) mailing comments to the following address: Naval Facilities Engineering Command, Pacific, Attn: EV21, CNMI Joint Military Training EIS/OEIS Project Manager, 258 Makalapa Drive, Suite 100, JBPHH, HI 96860–3134.

FOR FURTHER INFORMATION CONTACT: Please visit the project Web site or contact the CNMI Joint Military Training EIS/OEIS Project Manager by telephone at 808–472–1253 or by email via the project Web site. Please submit requests for special assistance, sign language interpretation for the hearing impaired, or other auxiliary aids needed at the public scoping open house to the Project Manager by March 25, 2013.

SUPPLEMENTARY INFORMATION: The U.S. military is charged with upholding the U.S. Constitution, defending the United

NWS Concord EIS

NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT FOR THE DISPOSAL AND REUSE OF THE NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD (NWS CONCORD), CITY OF CONCORD, CALIFORNIA, AND TO ANNOUNCE A PUBLIC SCOPING MEETING

Pursuant to the National Environmental Policy Act (NEPA), the Department of the Navy (Navy) announces its intent to prepare an Environmental Impact Statement (EIS) to evaluate the potential environmental consequences associated with the Navy's disposal of surplus federal property at the NWS Concord and its subsequent reuse in a manner consistent with the Concord Reuse Project Area Plan, as adopted by the City of Concord on January 24, 2012. A 30-day public scoping period is being held to receive comments on the scope of the EIS, including the range of actions, alternatives, and environmental concerns that should be addressed. A public scoping meeting will also be held in the City of Concord to provide information and receive written comments on the scope of the EIS. There will not be a formal presentation. Federal, state, and local agencies and interested individuals are invited to comment on the scope of the EIS and attend the public scoping meeting.

The public scoping meeting is scheduled as follows:

Date: Thursday, April 4, 2013

Times: (Session 1) 4:00 - 6:00 p.m.
(Session 2) 7:00 - 9:00 p.m.

Location: Concord Senior Citizens Center (Wisteria Room)
2727 Parkside Circle
Concord, CA 94519

If you cannot attend the public scoping meeting, you may submit written scoping comments via mail, fax, and email. All comments must be postmarked or received by midnight Friday, April 19, 2013, and sent to:

Director, NAVFAC BRAC PMO West
Attn: Mr. Ronald Bochenek
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

Fax: 619-532-9858

Email: ronald.bochenek.ctr@navy.mil

For more information on the NWS Concord EIS, including the complete text of the Notice of Intent, go to the Navy BRAC PMO Website (http://www.bracpmo.navy.mil/).

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD., SUITE 900
SAN DIEGO, CA 92108-4310

Notice of Intent to Prepare an Environmental Impact Statement for the Disposal and Reuse of the Naval Weapons Station Seal Beach Detachment Concord (NWS Concord), City of Concord, California, and to Announce a Public Scoping Meeting

AGENCY: Department of the Navy, DOD.

ACTION: Notice.

SUMMARY: Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as implemented by the Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), the Department of the Navy (Navy) announces its intent to prepare an Environmental Impact Statement (EIS) to evaluate the potential environmental consequences of the disposal and reuse of surplus property at the former NWS Concord, Concord, Contra Costa County, California. In accordance with NEPA, before disposing of any real property, the Navy must analyze the environmental effects of the disposal of the NWS Concord property. A 30-day public scoping period is being held to receive comments on the scope of the EIS, including the range of actions, alternatives, and environmental concerns that should be addressed. A public scoping meeting will also be held in the City of Concord, California, to provide information and receive written comments on the scope of the EIS. Federal, state, and local agencies and interested individuals are invited to comment on the scope of the EIS and attend the public scoping meeting.

PUBLIC SCOPING MEETING DATE AND ADDRESS: Two public scoping meeting sessions will be held on Thursday, April 4, 2013, at 4:00 - 6:00 p.m. and 7:00 - 9:00 p.m. at the Concord Senior Citizens Center (Wisteria Room), 2727 Parkside Circle, Concord, California, 94519. Navy representatives will be available to provide clarification as necessary related to the EIS. There will not be a formal presentation.

FOR FURTHER INFORMATION CONTACT: Director, NAVFAC BRAC PMO West, Attn: Mr. Ronald Bochenek, 1455 Frazee Road, Suite 900, San Diego, California 92108-4310, telephone 619-532-0906, fax 619-532-9858, email: ronald.bochenek.ctr@navy.mil.

For more information on the NWS Concord EIS, visit the Navy BRAC PMO Website (http://www.bracpmo.navy.mil/).

SUPPLEMENTARY INFORMATION: In 2005, a portion of NWS Concord was designated for closure under the authority of Public Law 101-510, the Defense Base Closure and Realignment Act (DBCRA) of 1990, as amended. At the time, the former NWS Concord comprised two major land holdings: (1) the Tidal Area, along Suisun Bay and (2) the Inland Area, within the City of Concord. In 2008, the Tidal Area and 115 acres of the Inland Area were transferred to the

U.S. Army and is now the Military Ocean Terminal Concord (6,419 acres in total). In addition, approximately 59 acres of the Inland Area, which supported military housing, was transferred to the U.S. Coast Guard. The remaining 5,038 acres of the Inland Area was declared surplus to the needs of the federal government on May 6, 2007 (72 FR 9935), and its disposal and reuse is the focus of this EIS.

The purpose of the proposed action is the disposal of surplus property at NWS Concord from federal ownership and its subsequent reuse in a manner consistent with the *Concord Reuse Project Area Plan*, as adopted by the City of Concord on January 24, 2012. The need for the proposed action is to provide the local community the opportunity for economic development and job creation. The Navy is the action proponent for the proposed action. The U.S. Army Corps of Engineers has requested to serve as a Cooperating Agency.

To assess the potential impacts of the proposed action, the Navy will evaluate two property reuse alternatives and a No Action Alternative. Alternative 1 is the reuse of the property in a manner consistent with the *Concord Reuse Project Area Plan*. Alternative 2 consists of a greater amount of residential and mixed-use development. Alternative 2 includes elements of the Connected Villages Alternative (Alternative 2), which was assessed in the 2008 Draft Environmental Impact Report (DEIR) of the City of Concord's Reuse Plan, which was conducted in compliance with the California Environmental Quality Act (CEQA). The No Action Alternative will be evaluated in detail in this EIS as prescribed by CEQ regulations. Both reuse alternatives assume full build-out over a 25-year period; the period of analysis will be during construction and when full build-out has been completed.

Alternative 1: Concord Reuse Project Area Plan - Alternative 1 is the disposal and reuse of surplus property at the former NWS Concord in a manner consistent with the *Concord Reuse Project Area Plan*. Under Alternative 1, approximately 69% of the property would be maintained as conservation, parks, or recreational land uses, and 31% would be mixed-use development, including a mix of office, retail, residential, community facilities, light industrial, and research and development/educational land uses. Development on the site would involve up to a maximum of 12,272 housing units and 6.1 million square feet of commercial space over a total development footprint of approximately 1,545 acres. The remaining portion of the property would be utilized for conservation, parks, and recreational land uses, including a 2,537-acre regional park, which would encompass the east side of the property along the ridgeline of the Los Medanos Hills. The western side of the property would be developed as a series of mixed-use development districts, with higher development densities at the north end of the property, near State Route 4 and the North Concord/Martinez Bay Area Rapid Transit (BART) station, and lower density residential villages to the south, towards Bailey Road. The development districts would be serviced by local and connector streets and two new through-streets—Los Medanos Boulevard running north-south from the BART station and Delta Road running east-west paralleling Highway 4. In addition, the transportation network would include a high-capacity bus transit service that would connect the development to BART, downtown Concord, and the surrounding neighborhoods.

Alternative 2: Larger Development Footprint - Alternative 2 would include a greater amount of development throughout the site, as approximately 60% of the property would be maintained as conservation, parks, or recreational land uses, and approximately 40% would be mixed-use development, including a mix of office, retail, hotel, residential, and community/institutional

land uses. Development on the site would involve up to a maximum of 13,000 housing units and 7.9 million square feet of commercial space over a total development footprint of approximately 2,000 acres. The transportation network would include a high-capacity bus transit service throughout the site, connecting the villages to downtown Concord and existing neighborhoods. An arterial road connecting Bailey Road and Willow Pass Road would be included east of Mt. Diablo Creek. Alternative 2 is included for the purposes of the NEPA analysis and does not imply a change to the City of Concord's adopted Area Plan and 2030 General Plan, which is the result of a public planning process. The Navy has no role in the community planning process.

No Action Alternative - The No Action Alternative is required by NEPA and evaluates the impacts at NWS Concord in the event that the surplus property is not disposed. Under this alternative, the property would be retained by the Navy in caretaker status. No reuse or redevelopment would occur under this alternative.

The EIS will address potential direct, indirect, short-term, long-term, and cumulative impacts on the human and natural environments, including but not limited to potential impacts on topography, geology and soils; water resources; biological resources; air quality; greenhouse gases and climate change; noise; infrastructure and utilities; transportation, traffic, and circulation; cultural resources; land use; socioeconomics and environmental justice; hazards and hazardous substances; and public services. Known areas of concern associated with the proposed action include impacts on biological and cultural resources, impacts on local traffic patterns resulting from reuse scenarios, and the cleanup of installation remediation sites.

The Navy is initiating a 30-day scoping period to receive comments on the scope of the EIS, including the range of actions, alternatives, and environmental concerns that should be addressed. A public scoping meeting will be held in the City of Concord, California, to provide information and receive written comments on the scope of the EIS. Federal, state, and local agencies and interested individuals are encouraged to comment on the scope of the EIS or attend the public scoping meeting. To be most helpful, scoping comments should clearly describe specific issues or topics that the commenter believes the EIS should address.

Comments can be made in the following ways:

(1) Written comments at the scheduled public scoping meeting; or

(2) Written comments mailed to the Navy BRAC PMO address in this notice; or

(3) Written comments faxed to the Navy BRAC PMO fax number in this notice; or

(4) Comments submitted via email using the Navy BRAC PMO email address in this notice.

Written comments must be postmarked, faxed, or emailed by midnight Friday, April 19, 2013, and sent to: Director, NAVFAC BRAC PMO West, Attn: Mr. Ronald Bochenek, 1455 Frazee Road, Suite 900, San Diego, California 92108-4310, telephone 619-532-0906, fax 619-532-9858, email: ronald.bochenek.ctr@navy.mil.

Requests for special assistance, sign language interpretation for the hearing impaired, language interpreters, or other auxiliary aids for the scheduled public scoping meeting must be sent by mail or email by Friday, March 29, 2013, to the address provided in this notice.

Appendix C Air Quality Analysis Supporting Information

This page intentionally left blank.

Carbon Monoxide (CO) Hot Spot Analysis

1. Introduction

A carbon monoxide (CO) hot spot modeling analysis was conducted at the 28 intersections considered in the new traffic analysis completed for the Concord NWS EIS (See Chapter 4.11 of the EIS). CO ambient concentrations were estimated at receptors along each intersection using the California Line Source Dispersion Model (CALINE4) model. Concentrations were estimated separately for Alternative 1, Alternative 2, and the No Build Alternative. The modeling incorporated traffic data from new traffic analysis and was conducted based on methodologies outlined in the Bay Area Air Quality Management District's (BAAQMD's) *California Environmental Quality Act Air Quality Guidelines* (BAAQMD 2012) and the California Department of Transportation's (CalTrans's) *Transportation Project-Level Carbon Monoxide Protocol* (Garza, et al. 1997).

2. Model Inputs

The CALINE4 model was used to estimate 1-hour CO concentrations along the intersections considered in the analysis. This section describes the input parameters used for the model.

Run Type

The worst-case wind angle was selected for each model run.

Aerodynamic Roughness Coefficient

The surface roughness coefficient of 100 centimeters (cm) for "suburban" conditions was used as most representative of the project site.

Link Geometry

Traffic was represented as "links" in the model. The links were developed based on intersection configuration. The links extended a minimum of 150 meters (m) from each intersection.

Link Height

The link heights for each intersection were set to zero. However, any highways located near the intersections were given representative heights relative to the intersections.

Mixing Zone Width

The mixing zone for each link was defined as the width of the roadway plus 6 m (3 m on either side of the roadway).

Link Activity

Link activity was based on the maximum hourly traffic volumes for each roadway segment at each intersection as defined the new traffic analysis.

Emission Factors

The EMFAC 2011-PL emission model was used to obtain representative mobile source CO emission factors for roadways in the analysis. The emission factors were based on average speed of 5 miles per hour (mph) and for all fuel types in Contra County, California for Calendar Year 2035.

Wind Speed

A wind speed of 0.5 meters per second (m/s) was used to represent worst-case conditions.

Wind Direction Standard Deviation

A wind direction standard deviation of 5 degrees was used to represent worst-case conditions.

Atmospheric Stability Class

Stability Class 4 (i.e., class D) was used to represent average conditions in the San Francisco Bay Area Air Basin (SFBAAB).

Mixing Height

A mixing height of 300 m was used as the approximately the height of the atmospheric boundary layer.

Ambient Temperature

An ambient temperature of 7.2 degrees Celsius (^{o}C) was used.

Receptor Positions

Receptors were positioned along the edge of the mixing zone for each roadway. The receptors were assigned a height of 1.8 m (5.9 feet)

3. Model Output

CALINE4 output includes estimated 1-hour CO concentrations in units of parts per million (ppm) at the receptor locations input into the model. Estimated 8-hour CO concentrations were calculated by multiplying the highest 1-hour CO concentration estimated by CALINE4 by a persistence factor of 0.7.

The total localized CO concentrations were developed by summing the CALINE4 results with corresponding 1-hour and 8-hour CO ambient background concentrations. Ambient 1-hour and 8-hour CO concentrations recorded from 2004 to 2013 at the Air Quality Monitoring Station 06013002 (located at 2975 Treat Boulevard in Concord, California) were reviewed to determine appropriate background concentrations. The 1-hour and 8-hour CO background concentrations used in the analysis were 2.6 ppm and 1.8, respectively. These values represent the highest 2nd-high CO concentration recorded over the 10-year period examined.

4. Results

The total localized 1-hour and 8-hour CO concentrations were compared to the state 1-hour and 8-hour CO ambient air quality standards (which are at least as stringent as the corresponding National Ambient Air Quality Standards). The results of the CO hot spot analysis indicate that the CO concentrations near the 28 intersections affected by the alternatives would be well below the State CO ambient air quality standards of 9 ppm (8-hour average) and 20 ppm (1-hour average). The results for 1-hour CO and 8-hour CO are presented in Tables 1 and 2, respectively.

Table 1
CO Hot Spot Analysis - 1-Hour CO Concentrations

Intersection	Project Contribution to Maximum 1-Hour CO Concentration[1] (ppm)						Background 1-Hour CO Concentration[2] (ppm)	Total Maximum 1-Hour CO Concentration[3] (ppm)						State 1-Hour CO Ambient Standard (ppm)	Any Exceedance of Standard?
	No Build Alternative		Alternative 1		Alternative 2			No Build Alternative		Alternative 1		Alternative 2			
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak		
1	0.5	0.7	1.0	1.1	1.0	1.0	2.6	3.1	3.3	3.6	3.7	3.6	3.6	20	No
2	0.3	0.4	0.5	0.5	0.5	0.5	2.6	2.9	3.0	3.1	3.1	3.1	3.1	20	No
3	0.6	0.8	0.6	0.8	0.7	0.8	2.6	3.2	3.4	3.2	3.4	3.3	3.4	20	No
4	0.7	1.0	0.7	1.0	0.8	1.0	2.6	3.3	3.6	3.3	3.6	3.4	3.6	20	No
5	0.7	0.7	0.9	0.8	0.8	0.7	2.6	3.3	3.3	3.5	3.4	3.4	3.3	20	No
6	0.6	0.7	0.6	0.8	0.6	0.8	2.6	3.2	3.3	3.2	3.4	3.2	3.4	20	No
7	0.7	0.6	0.7	0.7	0.7	0.7	2.6	3.3	3.2	3.3	3.3	3.3	3.3	20	No
8	0.7	0.7	0.7	0.7	0.7	0.7	2.6	3.3	3.3	3.3	3.3	3.3	3.3	20	No
9	0.7	0.7	0.7	0.8	0.7	0.8	2.6	3.3	3.3	3.3	3.4	3.3	3.4	20	No
10	0.8	0.8	0.7	0.8	0.7	0.8	2.6	3.4	3.4	3.3	3.4	3.3	3.4	20	No
11	0.8	0.8	0.8	0.9	0.8	0.8	2.6	3.4	3.4	3.4	3.5	3.4	3.4	20	No
12	0.8	0.8	0.8	0.8	0.8	0.8	2.6	3.4	3.4	3.4	3.4	3.4	3.4	20	No
13	0.7	0.7	0.6	0.7	0.7	0.8	2.6	3.3	3.3	3.2	3.3	3.3	3.4	20	No
14	0.7	0.7	0.7	0.8	0.7	0.8	2.6	3.3	3.3	3.3	3.4	3.3	3.4	20	No
15	0.9	1.2	0.9	1.2	0.9	1.2	2.6	3.5	3.8	3.5	3.8	3.5	3.8	20	No
16	0.8	0.8	0.8	0.8	0.8	0.8	2.6	3.4	3.4	3.4	3.4	3.4	3.4	20	No
17	1.2	0.9	1.1	0.9	1.2	0.9	2.6	3.8	3.5	3.7	3.5	3.8	3.5	20	No
18	1.2	0.9	1.3	0.9	1.2	1.1	2.6	3.8	3.5	3.9	3.5	3.8	3.7	20	No
19	1.2	0.9	1.3	0.9	1.2	1.1	2.6	3.8	3.5	3.9	3.5	3.8	3.7	20	No
20	1.0	0.9	1.0	0.9	1.0	0.9	2.6	3.6	3.5	3.6	3.5	3.6	3.5	20	No
21	1.0	0.9	1.0	0.9	1.0	0.9	2.6	3.6	3.5	3.6	3.5	3.6	3.5	20	No
22	0.9	0.6	0.9	0.7	0.9	0.7	2.6	3.5	3.2	3.5	3.3	3.5	3.3	20	No
23	0.9	0.8	1.0	1.0	1.0	1.0	2.6	3.5	3.4	3.6	3.6	3.6	3.6	20	No
24	1.0	0.7	1.0	1.0	1.0	0.9	2.6	3.6	3.3	3.6	3.6	3.6	3.5	20	No
25	0.8	0.7	0.9	0.8	0.8	0.8	2.6	3.4	3.3	3.5	3.4	3.4	3.4	20	No
26	0.6	0.7	0.6	0.9	0.5	0.9	2.6	3.2	3.3	3.2	3.5	3.1	3.5	20	No
27	1.0	0.8	0.9	0.8	1.0	0.8	2.6	3.6	3.4	3.5	3.4	3.6	3.4	20	No
28	0.8	0.9	0.8	0.8	0.8	0.9	2.6	3.4	3.5	3.4	3.4	3.4	3.5	20	No

Notes:

1. Results from CALINE4 model runs.
2. Based on 2nd Maximum 1-Hour CO concentrations observed at Monitoring Station 060130002 (2975 Treat Blvd, Concord, CA). Value is reported is highest value reported from Years 2004 to 2013.
3. Sum of Project Contribution and Background Concentration.

Table 2
CO Hot Spot Analysis - 8-Hour CO Concentrations

Intersection	Project Contribution to Maximum 8-Hour CO Concentration[1] (ppm)						Background 8-Hour CO Concentration[2] (ppm)	Total Maximum 8-Hour CO Concentration[3] (ppm)						State 8-Hour CO Ambient Standard (ppm)	Any Exceedance of Standard?
	No Build Alternative		Alternative 1		Alternative 2			No Build Alternative		Alternative 1		Alternative 2			
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak		
1	0.4	0.5	0.7	0.8	0.7	0.7	1.8	2.2	2.3	2.5	2.6	2.5	2.5	9	No
2	0.3	0.3	0.4	0.4	0.4	0.4	1.8	2.1	2.1	2.2	2.2	2.2	2.2	9	No
3	0.5	0.6	0.5	0.6	0.5	0.6	1.8	2.3	2.4	2.3	2.4	2.3	2.4	9	No
4	0.5	0.7	0.5	0.7	0.6	0.7	1.8	2.3	2.5	2.3	2.5	2.4	2.5	9	No
5	0.5	0.5	0.7	0.6	0.6	0.5	1.8	2.3	2.3	2.5	2.4	2.4	2.3	9	No
6	0.5	0.5	0.5	0.6	0.5	0.6	1.8	2.3	2.3	2.3	2.4	2.3	2.4	9	No
7	0.5	0.5	0.5	0.5	0.5	0.5	1.8	2.3	2.3	2.3	2.3	2.3	2.3	9	No
8	0.5	0.5	0.5	0.5	0.5	0.5	1.8	2.3	2.3	2.3	2.3	2.3	2.3	9	No
9	0.5	0.5	0.5	0.6	0.5	0.6	1.8	2.3	2.3	2.3	2.4	2.3	2.4	9	No
10	0.6	0.6	0.5	0.6	0.5	0.6	1.8	2.4	2.4	2.3	2.4	2.3	2.4	9	No
11	0.6	0.6	0.6	0.7	0.6	0.6	1.8	2.4	2.4	2.4	2.5	2.4	2.4	9	No
12	0.6	0.6	0.6	0.6	0.6	0.6	1.8	2.4	2.4	2.4	2.4	2.4	2.4	9	No
13	0.5	0.5	0.5	0.5	0.5	0.6	1.8	2.3	2.3	2.3	2.3	2.3	2.4	9	No
14	0.5	0.5	0.5	0.6	0.5	0.6	1.8	2.3	2.3	2.3	2.4	2.3	2.4	9	No
15	0.7	0.9	0.7	0.9	0.7	0.9	1.8	2.5	2.7	2.5	2.7	2.5	2.7	9	No
16	0.6	0.6	0.6	0.6	0.6	0.6	1.8	2.4	2.4	2.4	2.4	2.4	2.4	9	No
17	0.9	0.7	0.8	0.7	0.9	0.7	1.8	2.7	2.5	2.6	2.5	2.7	2.5	9	No
18	0.9	0.7	1.0	0.7	0.9	0.8	1.8	2.7	2.5	2.8	2.5	2.7	2.6	9	No
19	0.9	0.7	1.0	0.7	0.9	0.8	1.8	2.7	2.5	2.8	2.5	2.7	2.6	9	No
20	0.7	0.7	0.7	0.7	0.7	0.7	1.8	2.5	2.5	2.5	2.5	2.5	2.5	9	No
21	0.7	0.7	0.7	0.7	0.7	0.7	1.8	2.5	2.5	2.5	2.5	2.5	2.5	9	No
22	0.7	0.5	0.7	0.5	0.7	0.5	1.8	2.5	2.3	2.5	2.3	2.5	2.3	9	No
23	0.7	0.6	0.7	0.7	0.7	0.7	1.8	2.5	2.4	2.5	2.5	2.5	2.5	9	No
24	0.7	0.5	0.7	0.7	0.7	0.7	1.8	2.5	2.3	2.5	2.5	2.5	2.5	9	No
25	0.6	0.5	0.7	0.6	0.6	0.6	1.8	2.4	2.3	2.5	2.4	2.4	2.4	9	No
26	0.5	0.5	0.5	0.7	0.4	0.7	1.8	2.3	2.3	2.3	2.5	2.2	2.5	9	No
27	0.7	0.6	0.7	0.6	0.7	0.6	1.8	2.5	2.4	2.5	2.4	2.5	2.4	9	No
28	0.6	0.7	0.6	0.6	0.6	0.7	1.8	2.4	2.5	2.4	2.4	2.4	2.5	9	No

Notes:

1. Calculated by multiplying project contribution to maximum 1-Hour CO concentration (CALINE4 output) by urban persistance factor of 0.7.
2. Based on 2nd Maximum 8-Hour CO concentrations observed at Monitoring Station 060130002 (2975 Treat Blvd, Concord, CA). Value is reported is highest value reported from Years 2004 to 2013.
3. Sum of Project Contribution and Background Concentration.

CalEEMod Emission Modeling

1. Introduction

Construction and operational emission estimates associated with each alternative were calculated using the California Emission Estimator Model (CalEEMod). The model is capable of estimating daily and annual emissions of criteria air pollutants and greenhouse gases (GHG) based on project-specific data. CalEEMod calculates unmitigated and mitigated emission estimates based on model inputs, including mitigation measures.

Construction emissions are calculated for each calendar year for which construction activities occur. Operational emissions are calculated for the first year of project operation after the completion of construction activities.

2. Model Inputs

This section describes the input parameters used to estimate construction and operational emissions in CalEEMod.

Period

The CalEEMod cannot estimate emissions past the Year 2035. Therefore, construction activities were assumed to be conducted from 2016 through 2035. All phases, except demolition were assumed to be equal for each year over this 20-year period. The demolition phase was assumed to last only the first five years of construction (2016 to 2021). Construction was assumed to occur on an average of 5 days per week.

Operational emissions are based on project during the last year of construction (2035).

Land Use Type

The land use type, size and population specifications for a project are entered into the model. The land use types that can be input cover a range of residential, educational, recreational, retail, commercial, and industrial uses. The land use types entered into the model were consistent with the description of the alternatives in the project description of the EIS. The land use types and associated specifications as input to the model are summarized in the attached CalEEMod report files.

Construction Equipment Data

CalEEMod uses construction equipment and vehicle profiles are based land use data entered into the model. However, these profiles can be adjusted based on site specific data. For this project, non-road equipment use was adjusted to closer reflect construction equipment assumptions made in the previous CEQA analysis of the project.

Mitigation-Construction

The construction emission estimates incorporated the application of water twice daily to active construction sites as a fugitive dust mitigation measure. Other mitigation measures will be used to reduce fugitive dust and equipment combustion emissions during construction. However, the construction emission estimates do not incorporate all potential mitigation measures as the exact quantification of emission reductions associated of these mitigation mitigations is complicated by the varying nature of construction activities.

Mitigation-Operations

Assumptions and mitigation measures defined in the Area Plan and used in the development of the CAP analysis were included with revised assumptions of the EIS analysis. However, the operational emission estimates in this report do not necessarily incorporate all potential mitigation measures as the exact quantification of these mitigations is not feasible. However, the majority of primary mitigation measures were incorporated and briefly described below and are listed in the attached CalEEMod reports.

Mobile Mitigation

Mitigations to reduce vehicle miles traveled (VMT) from mobile sources included:

- Increase Density
- Increase Diversity
- Improve Walkability Design
- Integrate Below Market Rate Housing
- Improve Pedestrian Network
- Unbundle Parking Cost
- Implement Trip Reduction Program
- Transit Subsidy
- Encourage Telecommuting and Alternative Work Schedules
- Market Commute Trip Reduction Option
- Provide Ride Sharing Program

Energy Mitigation

Mitigation measures to reduce energy use included the goal of exceed existing building energy efficiency standards and utilizing an extensive network of on-site renewable energy sources (i.e., solar panels).

Water and Waste Mitigation

Mitigation measures to reduce water use and waste generation included applying a water conservation strategy, installing low flow toilets, instituting a comprehensive recycling and composting program (estimated to reduce waste by ~60%).

3. Model Results

Construction emissions are calculated for each calendar year for which construction activities occur. Operational emissions are calculated for the first year of project operation after the completion of construction activities. Annual emissions are reported in terms of tons per year for criteria pollutants and or metric tons per year for GHGs. Daily emissions are reported in terms of pounds per day for the summer and winter seasons.

The reported annual PM10 and PM2.5 fugitive dust construction emissions represent the anticipated project activities. However, it should be noted that daily PM10 and PM2.5 fugitive dust construction emissions in the CalEEMod reports are less than anticipated maximum daily emissions of these pollutants.

Concord - Alternative 1

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,550.00	1000sqft	29.00	2,550,000.00	0
Government Office Building	300.00	1000sqft	80.00	300,000.00	0
Medical Office Building	400.00	1000sqft	55.00	400,000.00	0
Office Park	365.00	1000sqft	35.50	365,000.00	0
Research & Development	765.00	1000sqft	90.50	765,000.00	0
Day-Care Center	43.00	1000sqft	0.99	43,000.00	0
Elementary School	125.00	1000sqft	2.87	125,000.00	0
High School	115.00	1000sqft	2.64	115,000.00	0
Junior High School	80.00	1000sqft	1.84	80,000.00	0
Library	29.00	1000sqft	0.67	29,000.00	0
University/College (4Yr)	10,000.00	Student	42.19	1,837,974.68	0
Parking Lot	150.00	Acre	150.00	6,534,000.00	0
Arena	75.00	Acre	75.00	3,267,000.00	0
City Park	257.00	Acre	257.00	11,194,920.00	0
Golf Course	88.00	Hole	88.00	0.00	0
Health Club	138.00	1000sqft	3.17	138,000.00	0
Hotel	358.00	Room	19.00	519,816.00	0
Apartments Low Rise	3,300.00	Dwelling Unit	330.00	3,300,000.00	9574
Apartments Mid Rise	3,100.00	Dwelling Unit	89.00	3,100,000.00	7820
Condo/Townhouse	4,700.00	Dwelling Unit	260.00	4,700,000.00	12114
Single Family Housing	1,100.00	Dwelling Unit	189.00	1,980,000.00	2879
Regional Shopping Center	850.00	1000sqft	83.00	850,000.00	0
Strip Mall	650.00	1000sqft	38.00	650,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2035

Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage and population based on site-specific data.

Construction Phase - Total days updated based on schedule.

Off-road Equipment - Unit amounts revised based on site specific factors.

Off-road Equipment - Revise equipment types and unit amounts based on site specifics.

Off-road Equipment -

Trips and VMT - Worker and vendor trips for Bldg. Constr. and Arch. Coating updated based on site-specific data.

Grading - Total acres disturbed based site-specifc data.

Woodstoves - Assume no fireplaces and wood stoves

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation - Mitigation added per site specifics.

Energy Mitigation -

Water Mitigation - Mitigation based on site-specific data.

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	5,217.00
tblConstructionPhase	NumDays	155,000.00	5,217.00
tblConstructionPhase	NumDays	10,000.00	1,566.00
tblConstructionPhase	NumDays	15,500.00	5,217.00
tblConstructionPhase	NumDays	11,000.00	5,217.00

tblConstructionPhase	NumDays	6,000.00	5,217.00
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/31/2041	12/31/2035
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2022	1/1/2016
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	6.29	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	215.60	0.00
tblFireplaces	NumberGas	1,815.00	0.00
tblFireplaces	NumberGas	1,705.00	0.00
tblFireplaces	NumberGas	2,585.00	0.00
tblFireplaces	NumberGas	605.00	0.00
tblFireplaces	NumberNoFireplace	1,023.00	0.00

tblFireplaces	NumberNoFireplace	961.00	0.00
tblFireplaces	NumberNoFireplace	1,457.00	0.00
tblFireplaces	NumberWood	462.00	0.00
tblFireplaces	NumberWood	434.00	0.00
tblFireplaces	NumberWood	658.00	0.00
tblFireplaces	NumberWood	495.00	0.00
tblGrading	AcresOfGrading	26,085.00	1,921.00
tblLandUse	LotAcreage	58.54	29.00
tblLandUse	LotAcreage	6.89	80.00
tblLandUse	LotAcreage	9.18	55.00
tblLandUse	LotAcreage	8.38	35.50
tblLandUse	LotAcreage	17.56	90.50
tblLandUse	LotAcreage	614.34	88.00
tblLandUse	LotAcreage	11.93	19.00
tblLandUse	LotAcreage	206.25	330.00
tblLandUse	LotAcreage	81.58	89.00
tblLandUse	LotAcreage	293.75	260.00
tblLandUse	LotAcreage	357.14	189.00
tblLandUse	LotAcreage	19.51	83.00
tblLandUse	LotAcreage	14.92	38.00
tblLandUse	Population	9,438.00	9,574.00
tblLandUse	Population	8,866.00	7,820.00
tblLandUse	Population	13,442.00	12,114.00
tblLandUse	Population	3,146.00	2,879.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSequestration	NumberOfNewTrees	0.00	10,560.00
tblTripsAndVMT	VendorTripNumber	6,182.00	130.00
tblTripsAndVMT	WorkerTripNumber	20,301.00	482.00
tblTripsAndVMT	WorkerTripNumber	4,060.00	96.00
tblWaterMitigation	PercentReductionInFlowToilet	20	37
tblWoodstoves	NumberCatalytic	16.50	0.00
tblWoodstoves	NumberCatalytic	15.50	0.00
tblWoodstoves	NumberCatalytic	23.50	0.00
tblWoodstoves	NumberCatalytic	38.50	0.00
tblWoodstoves	NumberNoncatalytic	16.50	0.00
tblWoodstoves	NumberNoncatalytic	15.50	0.00
tblWoodstoves	NumberNoncatalytic	23.50	0.00
tblWoodstoves	NumberNoncatalytic	38.50	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	26.24	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	1,355.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	16.1764	51.9509	40.1591	0.0572	64.7477	2.7684	67.5161	34.8891	2.5727	37.4618	0.0000	5,142.2832	5,142.2832	1.1800	0.0000	5,167.0635
2017	15.7146	48.0080	38.1601	0.0570	64.7443	2.5269	67.2712	34.8881	2.3476	37.2358	0.0000	5,033.5452	5,033.5452	1.1650	0.0000	5,058.0101
2018	15.1239	41.8593	35.5182	0.0572	64.7477	2.1415	66.8892	34.8891	1.9903	36.8794	0.0000	4,965.1108	4,965.1108	1.1602	0.0000	4,989.4759
2019	14.7294	37.9945	34.0306	0.0572	64.7477	1.8942	66.6419	34.8890	1.7601	36.6492	0.0000	4,879.0866	4,879.0866	1.1517	0.0000	4,903.2731
2020	14.4657	34.6745	32.7901	0.0574	64.7511	1.6917	66.4428	34.8900	1.5717	36.4616	0.0000	4,789.5677	4,789.5677	1.1493	0.0000	4,813.7039
2021	14.0993	31.0518	31.3977	0.0572	64.7477	1.4790	66.2267	34.8891	1.3738	36.2628	0.0000	4,759.9625	4,759.9625	1.1395	0.0000	4,783.8916
2022	13.3929	24.0076	26.6090	0.0516	64.7265	1.1140	65.8405	34.8834	1.0346	35.9180	0.0000	4,266.1478	4,266.1478	1.0034	0.0000	4,287.2189
2023	13.2154	21.9152	25.9772	0.0516	64.7266	0.9891	65.7157	34.8834	0.9185	35.8019	0.0000	4,257.5836	4,257.5836	1.0002	0.0000	4,278.5870
2024	13.1829	20.5323	25.6344	0.0520	64.7333	0.8986	65.6319	34.8853	0.8341	35.7194	0.0000	4,282.6464	4,282.6464	1.0051	0.0000	4,303.7524
2025	12.9370	18.1028	24.5545	0.0518	64.7300	0.7610	65.4910	34.8844	0.7065	35.5909	0.0000	4,259.2734	4,259.2734	0.9985	0.0000	4,280.2425
2026	12.9272	18.0803	24.4226	0.0518	64.7300	0.7608	65.4908	34.8844	0.7063	35.5907	0.0000	4,253.4605	4,253.4605	0.9978	0.0000	4,274.4147
2027	12.9199	18.0665	24.3240	0.0518	64.7301	0.7608	65.4909	34.8844	0.7063	35.5907	0.0000	4,248.4237	4,248.4237	0.9972	0.0000	4,269.3652
2028	12.8633	17.9844	24.1448	0.0516	64.7267	0.7579	65.4846	34.8835	0.7036	35.5871	0.0000	4,227.8128	4,227.8128	0.9929	0.0000	4,248.6626
2029	12.9051	18.0420	24.1372	0.0518	64.7301	0.7609	65.4910	34.8844	0.7064	35.5908	0.0000	4,240.2998	4,240.2998	0.9961	0.0000	4,261.2186
2030	12.9930	10.7826	22.0066	0.0560	64.7301	0.3129	65.0430	34.8844	0.3114	35.1958	0.0000	4,815.8531	4,815.8531	0.1853	0.0000	4,819.7443

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2031	12.9878	10.7735	21.9415	0.0560	64.7302	0.3129	65.0431	34.8844	0.3114	35.1958	0.0000	4,813.1024	4,813.1024	0.1848	0.0000	4,816.9835
2032	13.0319	10.8068	21.9681	0.0562	64.7335	0.3142	65.0477	34.8853	0.3126	35.1979	0.0000	4,829.2343	4,829.2343	0.1851	0.0000	4,833.1214
2033	12.9257	10.7157	21.7507	0.0558	64.7268	0.3118	65.0386	34.8835	0.3102	35.1937	0.0000	4,790.4355	4,790.4355	0.1833	0.0000	4,794.2854
2034	12.9205	10.7093	21.7044	0.0558	64.7268	0.3118	65.0386	34.8835	0.3102	35.1937	0.0000	4,788.7903	4,788.7903	0.1830	0.0000	4,792.6329
2035	12.7639	8.6436	21.5127	0.0560	64.7302	0.2043	64.9346	34.8845	0.2028	35.0872	0.0000	4,805.8453	4,805.8453	0.1665	0.0000	4,809.3423
Total	**272.2758**	**464.7015**	**542.7434**	**1.0924**	**1,294.6972**	**21.0726**	**1,315.7698**	**697.7131**	**19.6910**	**717.4041**	**0.0000**	**92,448.4648**	**92,448.4648**	**16.0250**	**0.0000**	**92,784.9895**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	16.1764	51.9508	40.1591	0.0572	29.6285	2.7684	32.3969	15.8322	2.5727	18.4049	0.0000	5,142.2784	5,142.2784	1.1800	0.0000	5,167.0587
2017	15.7146	48.0080	38.1600	0.0570	29.6251	2.5269	32.1520	15.8313	2.3476	18.1789	0.0000	5,033.5404	5,033.5404	1.1650	0.0000	5,058.0053
2018	15.1239	41.8592	35.5181	0.0572	29.6285	2.1415	31.7700	15.8322	1.9903	17.8225	0.0000	4,965.1061	4,965.1061	1.1602	0.0000	4,989.4711
2019	14.7294	37.9944	34.0305	0.0572	29.6285	1.8942	31.5227	15.8322	1.7601	17.5923	0.0000	4,879.0820	4,879.0820	1.1517	0.0000	4,903.2684
2020	14.4657	34.6745	32.7901	0.0574	29.6319	1.6917	31.3237	15.8331	1.5717	17.4047	0.0000	4,789.5631	4,789.5631	1.1493	0.0000	4,813.6993
2021	14.0993	31.0518	31.3977	0.0572	29.6285	1.4790	31.1076	15.8322	1.3738	17.2059	0.0000	4,759.9579	4,759.9579	1.1395	0.0000	4,783.8871
2022	13.3929	24.0075	26.6089	0.0516	29.6074	1.1139	30.7213	15.8265	1.0346	16.8611	0.0000	4,266.1438	4,266.1438	1.0034	0.0000	4,287.2149

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	13.2154	21.9152	25.9772	0.0516	29.6074	0.9891	30.5965	15.8265	0.9185	16.7450	0.0000	4,257.5796	4,257.5796	1.0002	0.0000	4,278.5830
2024	13.1829	20.5323	25.6344	0.0520	29.6141	0.8986	30.5127	15.8284	0.8341	16.6625	0.0000	4,282.6424	4,282.6424	1.0051	0.0000	4,303.7484
2025	12.9370	18.1028	24.5545	0.0518	29.6108	0.7610	30.3718	15.8275	0.7065	16.5340	0.0000	4,259.2693	4,259.2693	0.9985	0.0000	4,280.2385
2026	12.9272	18.0803	24.4226	0.0518	29.6108	0.7608	30.3716	15.8275	0.7063	16.5338	0.0000	4,253.4565	4,253.4565	0.9978	0.0000	4,274.4107
2027	12.9199	18.0665	24.3240	0.0518	29.6109	0.7608	30.3717	15.8275	0.7063	16.5338	0.0000	4,248.4196	4,248.4196	0.9972	0.0000	4,269.3612
2028	12.8633	17.9844	24.1447	0.0516	29.6075	0.7579	30.3655	15.8266	0.7036	16.5302	0.0000	4,227.8088	4,227.8088	0.9929	0.0000	4,248.6585
2029	12.9051	18.0419	24.1372	0.0518	29.6109	0.7609	30.3718	15.8275	0.7064	16.5339	0.0000	4,240.2958	4,240.2958	0.9961	0.0000	4,261.2146
2030	12.9930	10.7826	22.0066	0.0560	29.6109	0.3129	29.9239	15.8275	0.3114	16.1389	0.0000	4,815.8485	4,815.8485	0.1853	0.0000	4,819.7396
2031	12.9878	10.7735	21.9415	0.0560	29.6110	0.3129	29.9239	15.8275	0.3114	16.1389	0.0000	4,813.0977	4,813.0977	0.1848	0.0000	4,816.9788
2032	13.0319	10.8068	21.9681	0.0562	29.6144	0.3142	29.9285	15.8284	0.3126	16.1410	0.0000	4,829.2296	4,829.2296	0.1851	0.0000	4,833.1167
2033	12.9257	10.7157	21.7506	0.0558	29.6076	0.3118	29.9194	15.8266	0.3102	16.1368	0.0000	4,790.4308	4,790.4308	0.1833	0.0000	4,794.2807
2034	12.9205	10.7093	21.7044	0.0558	29.6077	0.3118	29.9194	15.8267	0.3102	16.1368	0.0000	4,788.7856	4,788.7856	0.1830	0.0000	4,792.6282
2035	12.7639	8.6436	21.5127	0.0560	29.6110	0.2043	29.8154	15.8276	0.2028	16.0303	0.0000	4,805.8406	4,805.8406	0.1665	0.0000	4,809.3376
Total	**272.2758**	**464.7010**	**542.7429**	**1.0924**	**592.3136**	**21.0726**	**613.3861**	**316.5752**	**19.6910**	**336.2662**	**0.0000**	**92,448.3765**	**92,448.3765**	**16.0250**	**0.0000**	**92,784.9009**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.25**	**0.00**	**53.38**	**54.63**	**0.00**	**53.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	191.4622	1.0429	90.4264	4.8000e-003		0.5029	0.5029		0.5029	0.5029	0.0000	148.2811	148.2811	0.1417	0.0000	151.2559
Energy	2.4346	21.5708	14.4695	0.1328		1.6821	1.6821		1.6821	1.6821	0.0000	84,406.1121	84,406.1121	3.1889	1.0060	84,784.9281
Mobile	76.1401	128.2472	726.4096	2.6108	181.1584	3.0733	184.2317	48.5014	2.8384	51.3398	0.0000	165,947.8837	165,947.8837	4.5577	0.0000	166,043.5950
Waste						0.0000	0.0000		0.0000	0.0000	3,776.5941	0.0000	3,776.5941	223.1903	0.0000	8,463.5907
Water						0.0000	0.0000		0.0000	0.0000	654.0119	5,328.7616	5,982.7735	67.4142	1.6360	7,905.6199
Total	**270.0368**	**150.8609**	**831.3055**	**2.7484**	**181.1584**	**5.2583**	**186.4167**	**48.5014**	**5.0234**	**53.5249**	**4,430.6060**	**255,831.0385**	**260,261.6445**	**298.4928**	**2.6419**	**267,348.9896**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	191.4622	1.0429	90.4264	4.8000e-003		0.5029	0.5029		0.5029	0.5029	0.0000	148.2811	148.2811	0.1417	0.0000	151.2559
Energy	1.8192	16.1147	10.7868	0.0992		1.2569	1.2569		1.2569	1.2569	0.0000	22,471.8768	22,471.8768	0.5471	0.3719	22,598.6455
Mobile	68.1123	90.5542	556.6331	1.6049	108.3226	2.0339	110.3565	29.0011	1.8792	30.8803	0.0000	101,962.8998	101,962.8998	2.9118	0.0000	102,024.0479
Waste						0.0000	0.0000		0.0000	0.0000	1,472.8717	0.0000	1,472.8717	87.0442	0.0000	3,300.8004
Water						0.0000	0.0000		0.0000	0.0000	654.0119	4,099.2095	4,753.2214	67.3586	1.6245	6,671.3344
Total	**261.3937**	**107.7117**	**657.8462**	**1.7090**	**108.3226**	**3.7937**	**112.1163**	**29.0011**	**3.6390**	**32.6401**	**2,126.8836**	**128,682.2673**	**130,809.1508**	**158.0035**	**1.9963**	**134,746.0841**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**3.20**	**28.60**	**20.87**	**37.82**	**40.21**	**27.85**	**39.86**	**40.21**	**27.56**	**39.02**	**52.00**	**49.70**	**49.74**	**47.07**	**24.44**	**49.60**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	7,476.4800
Total	**7,476.4800**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	12/31/2021	5	1566	
2	Site Preparation	Site Preparation	1/1/2016	12/31/2035	5	5217	
3	Grading	Grading	1/1/2016	12/31/2035	5	5217	
4	Building Construction	Building Construction	1/1/2016	12/31/2035	5	5217	
5	Paving	Paving	1/1/2016	12/31/2035	5	5217	
6	Architectural Coating	Architectural Coating	1/1/2016	12/31/2035	5	5217	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1921

Acres of Paving: 0

Residential Indoor: 26,487,000; Residential Outdoor: 8,829,000; Non-Residential Indoor: 35,138,596; Non-Residential Outdoor: 11,712,865 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Off-Highway Trucks	2	8.00	400	0.38
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	4	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	4	7.00	226	0.29
Building Construction	Forklifts	12	8.00	89	0.20
Building Construction	Generator Sets	4	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	12	7.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	14	35.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	36	482.00	130.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	96.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Integrate Below Market Rate Housing

Improve Pedestrian Network

Unbundle Parking Cost

Implement Trip Reduction Program

Transit Subsidy

Encourage Telecommuting and Alternative Work Schedules

Market Commute Trip Reduction Option

Provide Riade Sharing Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	68.1123	90.5542	556.6331	1.6049	108.3226	2.0339	110.3565	29.0011	1.8792	30.8803	0.0000	101,962.8998	101,962.8998	2.9118	0.0000	102,024.0479
Unmitigated	76.1401	128.2472	726.4096	2.6108	181.1584	3.0733	184.2317	48.5014	2.8384	51.3398	0.0000	165,947.8837	165,947.8837	4.5577	0.0000	166,043.5950

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	21,747.00	23,628.00	20031.00	48,599,884	30,198,487
Apartments Mid Rise	20,429.00	22,196.00	18817.00	45,654,437	28,368,275
Arena	2,499.75	0.00	0.00	35,025	20,602
City Park	408.63	408.63	408.63	872,365	511,679
Condo/Townhouse	30,973.00	33,652.00	28529.00	69,218,017	43,009,966
Day-Care Center	3,408.18	267.03	250.69	2,953,935	1,696,852
Elementary School	1,928.75	0.00	0.00	3,037,697	1,743,099
General Office Building	28,075.50	6,043.50	2499.00	50,840,284	29,819,940
Golf Course	3,145.12	3,575.44	3478.64	5,881,323	3,449,652
Government Office Building	20,679.00	0.00	0.00	25,330,009	14,543,945
Health Club	4,544.34	2,880.06	3688.74	7,229,174	4,245,816
High School	1,482.35	502.55	205.85	3,037,123	1,742,382
Hotel	2,924.86	2,932.02	2130.10	5,343,262	3,137,516
Junior High School	1,102.40	0.00	0.00	1,770,292	1,015,695
Library	1,630.96	1,349.95	739.21	2,480,292	1,423,589
Medical Office Building	14,452.00	3,584.00	620.00	21,379,879	12,543,601
Office Park	4,168.30	598.60	277.40	7,775,632	4,560,729
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	36,499.00	42,474.50	21454.00	61,722,216	36,252,386
Research & Development	6,204.15	1,453.50	849.15	11,930,955	6,997,997
Single Family Housing	10,527.00	11,088.00	9647.00	23,398,385	14,539,043
Strip Mall	28,808.00	27,326.00	13279.50	40,622,882	23,859,177
University/College (4Yr)	23,800.00	13,000.00	0.00	47,626,180	27,362,394
Total	269,437.29	196,959.78	126,904.91	486,739,249	291,042,822

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Arena	9.50	7.30	7.30	0.00	81.00	19.00	0.66	0.28	0.6
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Golf Course	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00	50	34	16
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
High School	9.50	7.30	7.30	77.80	17.20	5.00	75	19	6
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12
Library	9.50	7.30	7.30	52.00	43.00	5.00	44	44	12
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.526722	0.065482	0.174404	0.141043	0.036208	0.004860	0.010810	0.027646	0.001315	0.001390	0.006584	0.001558	0.001978

Concord - Alternative 1

Contra Costa County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,550.00	1000sqft	29.00	2,550,000.00	0
Government Office Building	300.00	1000sqft	80.00	300,000.00	0
Medical Office Building	400.00	1000sqft	55.00	400,000.00	0
Office Park	365.00	1000sqft	35.50	365,000.00	0
Research & Development	765.00	1000sqft	90.50	765,000.00	0
Day-Care Center	43.00	1000sqft	0.99	43,000.00	0
Elementary School	125.00	1000sqft	2.87	125,000.00	0
High School	115.00	1000sqft	2.64	115,000.00	0
Junior High School	80.00	1000sqft	1.84	80,000.00	0
Library	29.00	1000sqft	0.67	29,000.00	0
University/College (4Yr)	10,000.00	Student	42.19	1,837,974.68	0
Parking Lot	150.00	Acre	150.00	6,534,000.00	0
Arena	75.00	Acre	75.00	3,267,000.00	0
City Park	257.00	Acre	257.00	11,194,920.00	0
Golf Course	88.00	Hole	88.00	0.00	0
Health Club	138.00	1000sqft	3.17	138,000.00	0
Hotel	358.00	Room	19.00	519,816.00	0
Apartments Low Rise	3,300.00	Dwelling Unit	330.00	3,300,000.00	9574
Apartments Mid Rise	3,100.00	Dwelling Unit	89.00	3,100,000.00	7820
Condo/Townhouse	4,700.00	Dwelling Unit	260.00	4,700,000.00	12114
Single Family Housing	1,100.00	Dwelling Unit	189.00	1,980,000.00	2879
Regional Shopping Center	850.00	1000sqft	83.00	850,000.00	0
Strip Mall	650.00	1000sqft	38.00	650,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2035

Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage and population based on site-specific data.

Construction Phase - Total days updated based on schedule.

Off-road Equipment - Unit amounts revised based on site specific factors.

Off-road Equipment - Revise equipment types and unit amounts based on site specifics.

Off-road Equipment -

Trips and VMT - Worker and vendor trips for Bldg. Constr. and Arch. Coating updated based on site-specific data.

Grading - Total acres disturbed based site-specifc data.

Woodstoves - Assume no fireplaces and wood stoves

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation - Mitigation added per site specifics.

Energy Mitigation -

Water Mitigation - Mitigation based on site-specific data.

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	5,217.00
tblConstructionPhase	NumDays	155,000.00	5,217.00
tblConstructionPhase	NumDays	10,000.00	1,566.00
tblConstructionPhase	NumDays	15,500.00	5,217.00
tblConstructionPhase	NumDays	11,000.00	5,217.00

tblConstructionPhase	NumDays	6,000.00	5,217.00
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/31/2041	12/31/2035
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2022	1/1/2016
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	6.29	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	215.60	0.00
tblFireplaces	NumberGas	1,815.00	0.00
tblFireplaces	NumberGas	1,705.00	0.00
tblFireplaces	NumberGas	2,585.00	0.00
tblFireplaces	NumberGas	605.00	0.00
tblFireplaces	NumberNoFireplace	1,023.00	0.00

tblFireplaces	NumberNoFireplace	961.00	0.00
tblFireplaces	NumberNoFireplace	1,457.00	0.00
tblFireplaces	NumberWood	462.00	0.00
tblFireplaces	NumberWood	434.00	0.00
tblFireplaces	NumberWood	658.00	0.00
tblFireplaces	NumberWood	495.00	0.00
tblGrading	AcresOfGrading	26,085.00	1,921.00
tblLandUse	LotAcreage	58.54	29.00
tblLandUse	LotAcreage	6.89	80.00
tblLandUse	LotAcreage	9.18	55.00
tblLandUse	LotAcreage	8.38	35.50
tblLandUse	LotAcreage	17.56	90.50
tblLandUse	LotAcreage	614.34	88.00
tblLandUse	LotAcreage	11.93	19.00
tblLandUse	LotAcreage	206.25	330.00
tblLandUse	LotAcreage	81.58	89.00
tblLandUse	LotAcreage	293.75	260.00
tblLandUse	LotAcreage	357.14	189.00
tblLandUse	LotAcreage	19.51	83.00
tblLandUse	LotAcreage	14.92	38.00
tblLandUse	Population	9,438.00	9,574.00
tblLandUse	Population	8,866.00	7,820.00
tblLandUse	Population	13,442.00	12,114.00
tblLandUse	Population	3,146.00	2,879.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSequestration	NumberOfNewTrees	0.00	10,560.00
tblTripsAndVMT	VendorTripNumber	6,182.00	130.00
tblTripsAndVMT	WorkerTripNumber	20,301.00	482.00
tblTripsAndVMT	WorkerTripNumber	4,060.00	96.00
tblWaterMitigation	PercentReductionInFlowToilet	20	37
tblWoodstoves	NumberCatalytic	16.50	0.00
tblWoodstoves	NumberCatalytic	15.50	0.00
tblWoodstoves	NumberCatalytic	23.50	0.00
tblWoodstoves	NumberCatalytic	38.50	0.00
tblWoodstoves	NumberNoncatalytic	16.50	0.00
tblWoodstoves	NumberNoncatalytic	15.50	0.00
tblWoodstoves	NumberNoncatalytic	23.50	0.00
tblWoodstoves	NumberNoncatalytic	38.50	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	26.24	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	1,355.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	124.0476	397.2713	306.9068	0.4447	31.5746	21.2127	52.7874	15.1823	19.7136	34.8959	0.0000	43,979.9063	43,979.9063	9.9671	0.0000	44,189.2161
2017	120.9766	368.5621	292.5798	0.4446	31.5747	19.4368	51.0115	15.1823	18.0579	33.2403	0.0000	43,205.2899	43,205.2899	9.8781	0.0000	43,412.7303
2018	116.0026	320.1040	271.0116	0.4446	31.5745	16.4092	47.9838	15.1823	15.2510	30.4333	0.0000	42,445.0461	42,445.0461	9.8001	0.0000	42,650.8479
2019	112.9813	290.5503	259.5227	0.4445	31.5744	14.5143	46.0886	15.1822	13.4870	28.6692	0.0000	41,700.9367	41,700.9367	9.7283	0.0000	41,905.2303
2020	110.5354	264.1671	248.9683	0.4444	31.5743	12.9136	44.4878	15.1822	11.9969	27.1790	0.0000	40,771.3930	40,771.3930	9.6710	0.0000	40,974.4830
2021	108.1515	237.4848	239.1970	0.4444	31.5745	11.3332	42.9077	15.1822	10.5264	25.7086	0.0000	40,668.0730	40,668.0730	9.6247	0.0000	40,870.1925
2022	103.1281	184.2597	203.3142	0.4029	31.4333	8.5684	40.0017	15.1448	7.9580	23.1028	0.0000	36,618.4701	36,618.4701	8.5077	0.0000	36,797.1321
2023	101.7577	168.2146	198.4406	0.4029	31.4335	7.6080	39.0415	15.1449	7.0648	22.2097	0.0000	36,539.7906	36,539.7906	8.4804	0.0000	36,717.8786
2024	100.7320	156.3876	194.3759	0.4029	31.4337	6.8591	38.2928	15.1450	6.3670	21.5120	0.0000	36,469.7086	36,469.7086	8.4568	0.0000	36,647.3007
2025	99.2294	138.3847	186.8400	0.4029	31.4339	5.8311	37.2651	15.1451	5.4135	20.5586	0.0000	36,405.5970	36,405.5970	8.4341	0.0000	36,582.7135
2026	99.1526	138.2252	185.8704	0.4029	31.4342	5.8293	37.2635	15.1452	5.4118	20.5570	0.0000	36,352.3618	36,352.3618	8.4281	0.0000	36,529.3525
2027	99.0911	138.1299	185.0941	0.4030	31.4344	5.8298	37.2642	15.1453	5.4123	20.5575	0.0000	36,306.2623	36,306.2623	8.4230	0.0000	36,483.1456
2028	99.0317	138.0397	184.4097	0.4030	31.4346	5.8298	37.2644	15.1454	5.4123	20.5576	0.0000	36,266.4943	36,266.4943	8.4184	0.0000	36,443.2799
2029	98.9694	137.9595	183.6733	0.4030	31.4348	5.8300	37.2648	15.1454	5.4125	20.5579	0.0000	36,232.0809	36,232.0809	8.4139	0.0000	36,408.7719
2030	99.6380	82.3407	167.3441	0.4355	31.4349	2.3975	33.8324	15.1455	2.3855	17.5310	0.0000	41,091.5455	41,091.5455	1.5648	0.0000	41,124.4071

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2031	99.5913	82.2780	166.8096	0.4355	31.4351	2.3976	33.8327	15.1456	2.3857	17.5312	0.0000	41,066.5121	41,066.5121	1.5608	0.0000	41,099.2885
2032	99.5419	82.2238	166.3431	0.4355	31.4353	2.3977	33.8330	15.1456	2.3858	17.5314	0.0000	41,045.5645	41,045.5645	1.5572	0.0000	41,078.2660
2033	99.4867	82.1638	165.9460	0.4355	31.4354	2.3978	33.8332	15.1457	2.3858	17.5315	0.0000	41,027.8680	41,027.8680	1.5542	0.0000	41,060.5058
2034	99.4418	82.1195	165.5668	0.4355	31.4356	2.3977	33.8333	15.1458	2.3858	17.5315	0.0000	41,012.8126	41,012.8126	1.5512	0.0000	41,045.3887
2035	97.8568	65.9781	163.4348	0.4355	31.4357	1.5654	33.0011	15.1458	1.5535	16.6993	0.0000	41,000.3378	41,000.3378	1.4063	0.0000	41,029.8697
Total	**2,089.3434**	**3,554.8444**	**4,135.6485**	**8.5038**	**629.5312**	**161.5590**	**791.0901**	**303.1285**	**150.9668**	**454.0954**	**0.0000**	**790,206.0509**	**790,206.0509**	**135.4262**	**0.0000**	**793,050.0003**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	124.0476	397.2713	306.9068	0.4447	18.1113	21.2127	39.3240	7.8766	19.7136	27.5902	0.0000	43,979.9062	43,979.9062	9.9671	0.0000	44,189.2161
2017	120.9766	368.5621	292.5798	0.4446	18.1113	19.4368	37.5481	7.8767	18.0579	25.9346	0.0000	43,205.2899	43,205.2899	9.8781	0.0000	43,412.7302
2018	116.0026	320.1040	271.0116	0.4446	18.1112	16.4092	34.5204	7.8766	15.2510	23.1276	0.0000	42,445.0460	42,445.0460	9.8001	0.0000	42,650.8478
2019	112.9813	290.5503	259.5227	0.4445	18.1110	14.5143	32.6253	7.8765	13.4870	21.3635	0.0000	41,700.9367	41,700.9367	9.7283	0.0000	41,905.2303
2020	110.5354	264.1671	248.9683	0.4444	18.1109	12.9136	31.0245	7.8765	11.9969	19.8733	0.0000	40,771.3929	40,771.3929	9.6710	0.0000	40,974.4830
2021	108.1515	237.4848	239.1970	0.4444	18.1111	11.3332	29.4443	7.8766	10.5264	18.4030	0.0000	40,668.0730	40,668.0730	9.6247	0.0000	40,870.1925
2022	103.1281	184.2597	203.3142	0.4029	17.9699	8.5684	26.5383	7.8391	7.9580	15.7972	0.0000	36,618.4701	36,618.4701	8.5077	0.0000	36,797.1321

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	101.7577	168.2146	198.4406	0.4029	17.9701	7.6080	25.5781	7.8392	7.0648	14.9040	0.0000	36,539.7906	36,539.7906	8.4804	0.0000	36,717.8786
2024	100.7320	156.3876	194.3759	0.4029	17.9703	6.8591	24.8294	7.8393	6.3670	14.2063	0.0000	36,469.7086	36,469.7086	8.4568	0.0000	36,647.3007
2025	99.2294	138.3847	186.8400	0.4029	17.9706	5.8311	23.8017	7.8394	5.4135	13.2529	0.0000	36,405.5970	36,405.5970	8.4341	0.0000	36,582.7134
2026	99.1526	138.2252	185.8704	0.4029	17.9708	5.8293	23.8001	7.8395	5.4118	13.2513	0.0000	36,352.3618	36,352.3618	8.4281	0.0000	36,529.3524
2027	99.0911	138.1299	185.0941	0.4030	17.9710	5.8298	23.8008	7.8396	5.4123	13.2518	0.0000	36,306.2623	36,306.2623	8.4230	0.0000	36,483.1456
2028	99.0317	138.0397	184.4097	0.4030	17.9712	5.8298	23.8010	7.8397	5.4123	13.2519	0.0000	36,266.4943	36,266.4943	8.4184	0.0000	36,443.2799
2029	98.9694	137.9595	183.6733	0.4030	17.9714	5.8300	23.8014	7.8397	5.4125	13.2522	0.0000	36,232.0808	36,232.0808	8.4139	0.0000	36,408.7718
2030	99.6380	82.3407	167.3441	0.4355	17.9716	2.3975	20.3690	7.8398	2.3855	10.2253	0.0000	41,091.5455	41,091.5455	1.5648	0.0000	41,124.4071
2031	99.5913	82.2780	166.8096	0.4355	17.9718	2.3976	20.3694	7.8399	2.3857	10.2255	0.0000	41,066.5120	41,066.5120	1.5608	0.0000	41,099.2885
2032	99.5419	82.2238	166.3431	0.4355	17.9719	2.3977	20.3696	7.8400	2.3858	10.2257	0.0000	41,045.5645	41,045.5645	1.5572	0.0000	41,078.2660
2033	99.4867	82.1638	165.9460	0.4355	17.9721	2.3978	20.3698	7.8400	2.3858	10.2258	0.0000	41,027.8680	41,027.8680	1.5542	0.0000	41,060.5058
2034	99.4418	82.1195	165.5668	0.4355	17.9722	2.3977	20.3699	7.8401	2.3858	10.2258	0.0000	41,012.8126	41,012.8126	1.5512	0.0000	41,045.3886
2035	97.8568	65.9781	163.4348	0.4355	17.9723	1.5654	19.5377	7.8401	1.5535	9.3936	0.0000	41,000.3377	41,000.3377	1.4063	0.0000	41,029.8696
Total	**2,089.3434**	**3,554.8444**	**4,135.6485**	**8.5038**	**360.2639**	**161.5590**	**521.8229**	**157.0147**	**150.9668**	**307.9816**	**0.0000**	**790,206.0504**	**790,206.0504**	**135.4262**	**0.0000**	**793,049.9998**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**42.77**	**0.00**	**34.04**	**48.20**	**0.00**	**32.18**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,064.3891	11.5873	1,004.7377	0.0533		5.5879	5.5879		5.5879	5.5879	0.0000	1,816.1325	1,816.1325	1.7350	0.0000	1,852.5679
Energy	13.3404	118.1963	79.2852	0.7277		9.2170	9.2170		9.2170	9.2170		145,531.5886	145,531.5886	2.7894	2.6681	146,417.2696
Mobile	532.5943	786.6112	4,512.1807	18.1957	1,219.7881	19.9791	1,239.7671	325.6471	18.4525	344.0996		1,268,235.2638	1,268,235.2638	32.6827		1,268,921.5995
Total	**1,610.3237**	**916.3948**	**5,596.2035**	**18.9767**	**1,219.7881**	**34.7840**	**1,254.5720**	**325.6471**	**33.2574**	**358.9045**	**0.0000**	**1,415,582.9849**	**1,415,582.9849**	**37.2070**	**2.6681**	**1,417,191.4369**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,064.3891	11.5873	1,004.7377	0.0533		5.5879	5.5879		5.5879	5.5879	0.0000	1,816.1325	1,816.1325	1.7350	0.0000	1,852.5679
Energy	9.9682	88.2995	59.1056	0.5437		6.8871	6.8871		6.8871	6.8871		108,743.6104	108,743.6104	2.0843	1.9936	109,405.4059
Mobile	479.0722	556.1812	3,237.6893	11.1407	727.6741	13.1878	740.8619	194.2674	12.1848	206.4521		776,622.9189	776,622.9189	20.8283		777,060.3126
Total	**1,553.4294**	**656.0679**	**4,301.5327**	**11.7377**	**727.6741**	**25.6628**	**753.3369**	**194.2674**	**24.6598**	**218.9271**	**0.0000**	**887,182.6619**	**887,182.6619**	**24.6475**	**1.9936**	**888,318.2864**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**3.53**	**28.41**	**23.13**	**38.15**	**40.34**	**26.22**	**39.95**	**40.34**	**25.85**	**39.00**	**0.00**	**37.33**	**37.33**	**33.76**	**25.28**	**37.32**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	12/31/2021	5	1566	
2	Site Preparation	Site Preparation	1/1/2016	12/31/2035	5	5217	
3	Grading	Grading	1/1/2016	12/31/2035	5	5217	
4	Building Construction	Building Construction	1/1/2016	12/31/2035	5	5217	
5	Paving	Paving	1/1/2016	12/31/2035	5	5217	
6	Architectural Coating	Architectural Coating	1/1/2016	12/31/2035	5	5217	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1921

Acres of Paving: 0

Residential Indoor: 26,487,000; Residential Outdoor: 8,829,000; Non-Residential Indoor: 35,138,596; Non-Residential Outdoor: 11,712,865 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Off-Highway Trucks	2	8.00	400	0.38
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	4	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	4	7.00	226	0.29
Building Construction	Forklifts	12	8.00	89	0.20
Building Construction	Generator Sets	4	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	12	7.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	14	35.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	36	482.00	130.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	96.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Integrate Below Market Rate Housing

Improve Pedestrian Network

Unbundle Parking Cost

Implement Trip Reduction Program

Transit Subsidy

Encourage Telecommuting and Alternative Work Schedules

Market Commute Trip Reduction Option

Provide Riade Sharing Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	479.0722	556.1812	3,237.6893	11.1407	727.6741	13.1878	740.8619	194.2674	12.1848	206.4521		776,622.9189	776,622.9189	20.8283		777,060.3126
Unmitigated	532.5943	786.6112	4,512.1807	18.1957	1,219.7881	19.9791	1,239.7671	325.6471	18.4525	344.0996		1,268,235.2638	1,268,235.2638	32.6827		1,268,921.5995

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	21,747.00	23,628.00	20031.00	48,599,884	30,198,487
Apartments Mid Rise	20,429.00	22,196.00	18817.00	45,654,437	28,368,275
Arena	2,499.75	0.00	0.00	35,025	20,602
City Park	408.63	408.63	408.63	872,365	511,679
Condo/Townhouse	30,973.00	33,652.00	28529.00	69,218,017	43,009,966
Day-Care Center	3,408.18	267.03	250.69	2,953,935	1,696,852
Elementary School	1,928.75	0.00	0.00	3,037,697	1,743,099
General Office Building	28,075.50	6,043.50	2499.00	50,840,284	29,819,940
Golf Course	3,145.12	3,575.44	3478.64	5,881,323	3,449,652
Government Office Building	20,679.00	0.00	0.00	25,330,009	14,543,945
Health Club	4,544.34	2,880.06	3688.74	7,229,174	4,245,816
High School	1,482.35	502.55	205.85	3,037,123	1,742,382
Hotel	2,924.86	2,932.02	2130.10	5,343,262	3,137,516
Junior High School	1,102.40	0.00	0.00	1,770,292	1,015,695
Library	1,630.96	1,349.95	739.21	2,480,292	1,423,589
Medical Office Building	14,452.00	3,584.00	620.00	21,379,879	12,543,601
Office Park	4,168.30	598.60	277.40	7,775,632	4,560,729
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	36,499.00	42,474.50	21454.00	61,722,216	36,252,386
Research & Development	6,204.15	1,453.50	849.15	11,930,955	6,997,997
Single Family Housing	10,527.00	11,088.00	9647.00	23,398,385	14,539,043
Strip Mall	28,808.00	27,326.00	13279.50	40,622,882	23,859,177
University/College (4Yr)	23,800.00	13,000.00	0.00	47,626,180	27,362,394
Total	269,437.29	196,959.78	126,904.91	486,739,249	291,042,822

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Arena	9.50	7.30	7.30	0.00	81.00	19.00	0.66	0.28	0.6
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Golf Course	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00	50	34	16
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
High School	9.50	7.30	7.30	77.80	17.20	5.00	75	19	6
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12
Library	9.50	7.30	7.30	52.00	43.00	5.00	44	44	12
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.526722	0.065482	0.174404	0.141043	0.036208	0.004860	0.010810	0.027646	0.001315	0.001390	0.006584	0.001558	0.001978

Concord - Alternative 1

Contra Costa County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,550.00	1000sqft	29.00	2,550,000.00	0
Government Office Building	300.00	1000sqft	80.00	300,000.00	0
Medical Office Building	400.00	1000sqft	55.00	400,000.00	0
Office Park	365.00	1000sqft	35.50	365,000.00	0
Research & Development	765.00	1000sqft	90.50	765,000.00	0
Day-Care Center	43.00	1000sqft	0.99	43,000.00	0
Elementary School	125.00	1000sqft	2.87	125,000.00	0
High School	115.00	1000sqft	2.64	115,000.00	0
Junior High School	80.00	1000sqft	1.84	80,000.00	0
Library	29.00	1000sqft	0.67	29,000.00	0
University/College (4Yr)	10,000.00	Student	42.19	1,837,974.68	0
Parking Lot	150.00	Acre	150.00	6,534,000.00	0
Arena	75.00	Acre	75.00	3,267,000.00	0
City Park	257.00	Acre	257.00	11,194,920.00	0
Golf Course	88.00	Hole	88.00	0.00	0
Health Club	138.00	1000sqft	3.17	138,000.00	0
Hotel	358.00	Room	19.00	519,816.00	0
Apartments Low Rise	3,300.00	Dwelling Unit	330.00	3,300,000.00	9574
Apartments Mid Rise	3,100.00	Dwelling Unit	89.00	3,100,000.00	7820
Condo/Townhouse	4,700.00	Dwelling Unit	260.00	4,700,000.00	12114
Single Family Housing	1,100.00	Dwelling Unit	189.00	1,980,000.00	2879
Regional Shopping Center	850.00	1000sqft	83.00	850,000.00	0
Strip Mall	650.00	1000sqft	38.00	650,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2035

Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage and population based on site-specific data.

Construction Phase - Total days updated based on schedule.

Off-road Equipment - Unit amounts revised based on site specific factors.

Off-road Equipment - Revise equipment types and unit amounts based on site specifics.

Off-road Equipment -

Trips and VMT - Worker and vendor trips for Bldg. Constr. and Arch. Coating updated based on site-specific data.

Grading - Total acres disturbed based site-specifc data.

Woodstoves - Assume no fireplaces and wood stoves

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation - Mitigation added per site specifics.

Energy Mitigation -

Water Mitigation - Mitigation based on site-specific data.

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	5,217.00
tblConstructionPhase	NumDays	155,000.00	5,217.00
tblConstructionPhase	NumDays	10,000.00	1,566.00
tblConstructionPhase	NumDays	15,500.00	5,217.00
tblConstructionPhase	NumDays	11,000.00	5,217.00

tblConstructionPhase	NumDays	6,000.00	5,217.00
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/31/2041	12/31/2035
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2022	1/1/2016
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	6.29	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	215.60	0.00
tblFireplaces	NumberGas	1,815.00	0.00
tblFireplaces	NumberGas	1,705.00	0.00
tblFireplaces	NumberGas	2,585.00	0.00
tblFireplaces	NumberGas	605.00	0.00
tblFireplaces	NumberNoFireplace	1,023.00	0.00

tblFireplaces	NumberNoFireplace	961.00	0.00
tblFireplaces	NumberNoFireplace	1,457.00	0.00
tblFireplaces	NumberWood	462.00	0.00
tblFireplaces	NumberWood	434.00	0.00
tblFireplaces	NumberWood	658.00	0.00
tblFireplaces	NumberWood	495.00	0.00
tblGrading	AcresOfGrading	26,085.00	1,921.00
tblLandUse	LotAcreage	58.54	29.00
tblLandUse	LotAcreage	6.89	80.00
tblLandUse	LotAcreage	9.18	55.00
tblLandUse	LotAcreage	8.38	35.50
tblLandUse	LotAcreage	17.56	90.50
tblLandUse	LotAcreage	614.34	88.00
tblLandUse	LotAcreage	11.93	19.00
tblLandUse	LotAcreage	206.25	330.00
tblLandUse	LotAcreage	81.58	89.00
tblLandUse	LotAcreage	293.75	260.00
tblLandUse	LotAcreage	357.14	189.00
tblLandUse	LotAcreage	19.51	83.00
tblLandUse	LotAcreage	14.92	38.00
tblLandUse	Population	9,438.00	9,574.00
tblLandUse	Population	8,866.00	7,820.00
tblLandUse	Population	13,442.00	12,114.00
tblLandUse	Population	3,146.00	2,879.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSequestration	NumberOfNewTrees	0.00	10,560.00
tblTripsAndVMT	VendorTripNumber	6,182.00	130.00
tblTripsAndVMT	WorkerTripNumber	20,301.00	482.00
tblTripsAndVMT	WorkerTripNumber	4,060.00	96.00
tblWaterMitigation	PercentReductionInFlowToilet	20	37
tblWoodstoves	NumberCatalytic	16.50	0.00
tblWoodstoves	NumberCatalytic	15.50	0.00
tblWoodstoves	NumberCatalytic	23.50	0.00
tblWoodstoves	NumberCatalytic	38.50	0.00
tblWoodstoves	NumberNoncatalytic	16.50	0.00
tblWoodstoves	NumberNoncatalytic	15.50	0.00
tblWoodstoves	NumberNoncatalytic	23.50	0.00
tblWoodstoves	NumberNoncatalytic	38.50	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	26.24	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	1,355.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	124.3427	398.6313	313.8131	0.4373	31.5746	21.2148	52.7894	15.1823	19.7154	34.8977	0.0000	43,349.0463	43,349.0463	9.9677	0.0000	43,558.3688
2017	121.2198	369.7772	299.2018	0.4372	31.5747	19.4385	51.0132	15.1823	18.0595	33.2418	0.0000	42,596.9470	42,596.9470	9.8787	0.0000	42,804.4002
2018	116.1711	321.1982	277.5218	0.4372	31.5745	16.4108	47.9853	15.1823	15.2524	30.4347	0.0000	41,858.1024	41,858.1024	9.8007	0.0000	42,063.9175
2019	113.1158	291.5439	265.8462	0.4371	31.5744	14.5157	46.0901	15.1822	13.4883	28.6705	0.0000	41,134.0465	41,134.0465	9.7289	0.0000	41,338.3535
2020	110.6474	265.0496	255.1848	0.4370	31.5743	12.9147	44.4890	15.1822	11.9980	27.1801	0.0000	40,226.3165	40,226.3165	9.6716	0.0000	40,429.4205
2021	108.2422	238.2710	245.3149	0.4370	31.5745	11.3342	42.9087	15.1822	10.5273	25.7096	0.0000	40,131.7095	40,131.7095	9.6254	0.0000	40,333.8436
2022	103.2071	184.9704	209.1211	0.3956	31.4333	8.5694	40.0027	15.1448	7.9589	23.1038	0.0000	36,101.4805	36,101.4805	8.5084	0.0000	36,280.1576
2023	101.8320	168.8467	204.1139	0.3956	31.4335	7.6089	39.0424	15.1449	7.0656	22.2106	0.0000	36,029.6864	36,029.6864	8.4811	0.0000	36,207.7895
2024	100.7955	156.9888	199.7507	0.3956	31.4337	6.8600	38.2937	15.1450	6.3678	21.5128	0.0000	35,965.7348	35,965.7348	8.4575	0.0000	36,143.3421
2025	99.2899	138.9612	192.1290	0.3956	31.4339	5.8320	37.2660	15.1451	5.4143	20.5594	0.0000	35,907.0293	35,907.0293	8.4348	0.0000	36,084.1610
2026	99.2075	138.7777	190.9823	0.3956	31.4342	5.8302	37.2644	15.1452	5.4126	20.5578	0.0000	35,858.4950	35,858.4950	8.4289	0.0000	36,035.5009
2027	99.1462	138.6639	190.1673	0.3956	31.4344	5.8307	37.2650	15.1453	5.4131	20.5583	0.0000	35,816.4367	35,816.4367	8.4237	0.0000	35,993.3352
2028	99.0873	138.5567	189.4579	0.3957	31.4346	5.8307	37.2653	15.1454	5.4131	20.5584	0.0000	35,780.1066	35,780.1066	8.4191	0.0000	35,956.9073
2029	99.0225	138.4601	188.5821	0.3957	31.4348	5.8309	37.2657	15.1454	5.4133	20.5587	0.0000	35,748.5775	35,748.5775	8.4146	0.0000	35,925.2837
2030	99.6934	82.8260	172.2004	0.4282	31.4349	2.3984	33.8333	15.1455	2.3864	17.5319	0.0000	40,610.4711	40,610.4711	1.5656	0.0000	40,643.3479

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2031	99.6520	82.7491	171.6817	0.4282	31.4351	2.3985	33.8336	15.1456	2.3865	17.5321	0.0000	40,587.4820	40,587.4820	1.5615	0.0000	40,620.2736
2032	99.6064	82.6828	171.2223	0.4282	31.4353	2.3986	33.8339	15.1456	2.3866	17.5322	0.0000	40,568.2602	40,568.2602	1.5579	0.0000	40,600.9769
2033	99.5497	82.6108	170.8136	0.4282	31.4354	2.3986	33.8341	15.1457	2.3866	17.5323	0.0000	40,552.0346	40,552.0346	1.5549	0.0000	40,584.6876
2034	99.5066	82.5573	170.4401	0.4282	31.4356	2.3986	33.8342	15.1458	2.3866	17.5324	0.0000	40,538.2356	40,538.2356	1.5520	0.0000	40,570.8269
2035	97.9226	66.4091	168.3188	0.4282	31.4357	1.5663	33.0020	15.1458	1.5543	16.7001	0.0000	40,526.8504	40,526.8504	1.4070	0.0000	40,556.3975
Total	**2,091.2577**	**3,568.5317**	**4,245.8636**	**8.3570**	**629.5312**	**161.5804**	**791.1116**	**303.1285**	**150.9866**	**454.1151**	**0.0000**	**779,887.0488**	**779,887.0488**	**135.4401**	**0.0000**	**782,731.2915**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	124.3427	398.6313	313.8131	0.4373	18.1113	21.2148	39.3260	7.8766	19.7154	27.5920	0.0000	43,349.0462	43,349.0462	9.9677	0.0000	43,558.3688
2017	121.2198	369.7772	299.2018	0.4372	18.1113	19.4385	37.5498	7.8767	18.0595	25.9361	0.0000	42,596.9470	42,596.9470	9.8787	0.0000	42,804.4002
2018	116.1711	321.1982	277.5218	0.4372	18.1112	16.4108	34.5220	7.8766	15.2524	23.1290	0.0000	41,858.1024	41,858.1024	9.8007	0.0000	42,063.9174
2019	113.1158	291.5439	265.8462	0.4371	18.1110	14.5157	32.6267	7.8765	13.4883	21.3648	0.0000	41,134.0464	41,134.0464	9.7289	0.0000	41,338.3535
2020	110.6474	265.0496	255.1848	0.4370	18.1109	12.9147	31.0256	7.8765	11.9980	19.8744	0.0000	40,226.3165	40,226.3165	9.6716	0.0000	40,429.4204
2021	108.2422	238.2710	245.3149	0.4370	18.1111	11.3342	29.4453	7.8766	10.5273	18.4039	0.0000	40,131.7095	40,131.7095	9.6254	0.0000	40,333.8435
2022	103.2071	184.9704	209.1211	0.3956	17.9699	8.5694	26.5393	7.8391	7.9589	15.7981	0.0000	36,101.4805	36,101.4805	8.5084	0.0000	36,280.1576

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	101.8320	168.8467	204.1139	0.3956	17.9701	7.6089	25.5790	7.8392	7.0656	14.9049	0.0000	36,029.6864	36,029.6864	8.4811	0.0000	36,207.7895
2024	100.7955	156.9888	199.7507	0.3956	17.9703	6.8600	24.8303	7.8393	6.3678	14.2071	0.0000	35,965.7348	35,965.7348	8.4575	0.0000	36,143.3420
2025	99.2899	138.9612	192.1290	0.3956	17.9706	5.8320	23.8026	7.8394	5.4143	13.2537	0.0000	35,907.0293	35,907.0293	8.4348	0.0000	36,084.1609
2026	99.2075	138.7777	190.9823	0.3956	17.9708	5.8302	23.8010	7.8395	5.4126	13.2521	0.0000	35,858.4950	35,858.4950	8.4289	0.0000	36,035.5008
2027	99.1462	138.6639	190.1673	0.3956	17.9710	5.8307	23.8017	7.8396	5.4131	13.2527	0.0000	35,816.4367	35,816.4367	8.4237	0.0000	35,993.3351
2028	99.0873	138.5567	189.4579	0.3957	17.9712	5.8307	23.8019	7.8397	5.4131	13.2528	0.0000	35,780.1065	35,780.1065	8.4191	0.0000	35,956.9073
2029	99.0225	138.4601	188.5821	0.3957	17.9714	5.8309	23.8023	7.8397	5.4133	13.2530	0.0000	35,748.5775	35,748.5775	8.4146	0.0000	35,925.2837
2030	99.6934	82.8260	172.2004	0.4282	17.9716	2.3984	20.3699	7.8398	2.3864	10.2262	0.0000	40,610.4711	40,610.4711	1.5656	0.0000	40,643.3479
2031	99.6520	82.7491	171.6817	0.4282	17.9718	2.3985	20.3702	7.8399	2.3865	10.2264	0.0000	40,587.4819	40,587.4819	1.5615	0.0000	40,620.2736
2032	99.6064	82.6828	171.2223	0.4282	17.9719	2.3986	20.3705	7.8400	2.3866	10.2265	0.0000	40,568.2602	40,568.2602	1.5579	0.0000	40,600.9769
2033	99.5497	82.6108	170.8136	0.4282	17.9721	2.3986	20.3707	7.8400	2.3866	10.2266	0.0000	40,552.0346	40,552.0346	1.5549	0.0000	40,584.6876
2034	99.5066	82.5573	170.4401	0.4282	17.9722	2.3986	20.3708	7.8401	2.3866	10.2267	0.0000	40,538.2356	40,538.2356	1.5520	0.0000	40,570.8268
2035	97.9226	66.4091	168.3188	0.4282	17.9723	1.5663	19.5386	7.8401	1.5543	9.3944	0.0000	40,526.8503	40,526.8503	1.4070	0.0000	40,556.3975
Total	**2,091.2577**	**3,568.5317**	**4,245.8636**	**8.3570**	**360.2639**	**161.5804**	**521.8443**	**157.0147**	**150.9866**	**308.0013**	**0.0000**	**779,887.0483**	**779,887.0483**	**135.4401**	**0.0000**	**782,731.2910**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**42.77**	**0.00**	**34.04**	**48.20**	**0.00**	**32.18**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,064.3891	11.5873	1,004.7377	0.0533		5.5879	5.5879		5.5879	5.5879	0.0000	1,816.1325	1,816.1325	1.7350	0.0000	1,852.5679
Energy	13.3404	118.1963	79.2852	0.7277		9.2170	9.2170		9.2170	9.2170		145,531.5886	145,531.5886	2.7894	2.6681	146,417.2696
Mobile	525.5784	871.9241	5,322.8820	16.8351	1,219.7881	20.0615	1,239.8495	325.6471	18.5282	344.1754		1,179,573.4353	1,179,573.4353	32.7619		1,180,261.4345
Total	**1,603.3079**	**1,001.7077**	**6,406.9048**	**17.6161**	**1,219.7881**	**34.8664**	**1,254.6544**	**325.6471**	**33.3331**	**358.9803**	**0.0000**	**1,326,921.1564**	**1,326,921.1564**	**37.2863**	**2.6681**	**1,328,531.2719**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,064.3891	11.5873	1,004.7377	0.0533		5.5879	5.5879		5.5879	5.5879	0.0000	1,816.1325	1,816.1325	1.7350	0.0000	1,852.5679
Energy	9.9682	88.2995	59.1056	0.5437		6.8871	6.8871		6.8871	6.8871		108,743.6104	108,743.6104	2.0843	1.9936	109,405.4059
Mobile	472.7120	613.3057	4,208.2786	10.3284	727.6741	13.2702	740.9443	194.2674	12.2605	206.5279		722,935.0691	722,935.0691	20.9075		723,374.1264
Total	**1,547.0692**	**713.1924**	**5,272.1219**	**10.9254**	**727.6741**	**25.7452**	**753.4193**	**194.2674**	**24.7355**	**219.0029**	**0.0000**	**833,494.8121**	**833,494.8121**	**24.7268**	**1.9936**	**834,632.1002**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	3.51	28.80	17.71	37.98	40.34	26.16	39.95	40.34	25.79	38.99	0.00	37.19	37.19	33.68	25.28	37.18

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	12/31/2021	5	1566	
2	Site Preparation	Site Preparation	1/1/2016	12/31/2035	5	5217	
3	Grading	Grading	1/1/2016	12/31/2035	5	5217	
4	Building Construction	Building Construction	1/1/2016	12/31/2035	5	5217	
5	Paving	Paving	1/1/2016	12/31/2035	5	5217	
6	Architectural Coating	Architectural Coating	1/1/2016	12/31/2035	5	5217	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1921

Acres of Paving: 0

Residential Indoor: 26,487,000; Residential Outdoor: 8,829,000; Non-Residential Indoor: 35,138,596; Non-Residential Outdoor: 11,712,865 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Off-Highway Trucks	2	8.00	400	0.38
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	4	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	4	7.00	226	0.29
Building Construction	Forklifts	12	8.00	89	0.20
Building Construction	Generator Sets	4	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	12	7.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	14	35.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	36	482.00	130.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	96.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Integrate Below Market Rate Housing

Improve Pedestrian Network

Unbundle Parking Cost

Implement Trip Reduction Program

Transit Subsidy

Encourage Telecommuting and Alternative Work Schedules

Market Commute Trip Reduction Option

Provide Riade Sharing Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	472.7120	613.3057	4,208.2786	10.3284	727.6741	13.2702	740.9443	194.2674	12.2605	206.5279		722,935.0691	722,935.0691	20.9075		723,374.1264
Unmitigated	525.5784	871.9241	5,322.8820	16.8351	1,219.7881	20.0615	1,239.8495	325.6471	18.5282	344.1754		1,179,573.4353	1,179,573.4353	32.7619		1,180,261.4345

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	21,747.00	23,628.00	20031.00	48,599,884	30,198,487
Apartments Mid Rise	20,429.00	22,196.00	18817.00	45,654,437	28,368,275
Arena	2,499.75	0.00	0.00	35,025	20,602
City Park	408.63	408.63	408.63	872,365	511,679
Condo/Townhouse	30,973.00	33,652.00	28529.00	69,218,017	43,009,966
Day-Care Center	3,408.18	267.03	250.69	2,953,935	1,696,852
Elementary School	1,928.75	0.00	0.00	3,037,697	1,743,099
General Office Building	28,075.50	6,043.50	2499.00	50,840,284	29,819,940
Golf Course	3,145.12	3,575.44	3478.64	5,881,323	3,449,652
Government Office Building	20,679.00	0.00	0.00	25,330,009	14,543,945
Health Club	4,544.34	2,880.06	3688.74	7,229,174	4,245,816
High School	1,482.35	502.55	205.85	3,037,123	1,742,382
Hotel	2,924.86	2,932.02	2130.10	5,343,262	3,137,516
Junior High School	1,102.40	0.00	0.00	1,770,292	1,015,695
Library	1,630.96	1,349.95	739.21	2,480,292	1,423,589
Medical Office Building	14,452.00	3,584.00	620.00	21,379,879	12,543,601
Office Park	4,168.30	598.60	277.40	7,775,632	4,560,729
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	36,499.00	42,474.50	21454.00	61,722,216	36,252,386
Research & Development	6,204.15	1,453.50	849.15	11,930,955	6,997,997
Single Family Housing	10,527.00	11,088.00	9647.00	23,398,385	14,539,043
Strip Mall	28,808.00	27,326.00	13279.50	40,622,882	23,859,177
University/College (4Yr)	23,800.00	13,000.00	0.00	47,626,180	27,362,394
Total	269,437.29	196,959.78	126,904.91	486,739,249	291,042,822

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Arena	9.50	7.30	7.30	0.00	81.00	19.00	0.66	0.28	0.6
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Golf Course	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00	50	34	16
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
High School	9.50	7.30	7.30	77.80	17.20	5.00	75	19	6
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12
Library	9.50	7.30	7.30	52.00	43.00	5.00	44	44	12
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.526722	0.065482	0.174404	0.141043	0.036208	0.004860	0.010810	0.027646	0.001315	0.001390	0.006584	0.001558	0.001978

Concord - Alternative 1

Contra Costa County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	4	No Change	0.00
Excavators	Diesel	No Change	0	5	No Change	0.00
Forklifts	Diesel	No Change	0	12	No Change	0.00
Generator Sets	Diesel	No Change	0	4	No Change	0.00
Graders	Diesel	No Change	0	2	No Change	0.00
Off-Highway Trucks	Diesel	No Change	0	2	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Plate Compactors	Diesel	No Change	0	1	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	6	No Change	0.00
Scrapers	Diesel	No Change	0	4	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	18	No Change	0.00
Welders	Diesel	No Change	0	4	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	5.12530E-001	3.43094E+000	4.74225E+000	7.75000E-003	1.87380E-001	1.87380E-001	0.00000E+000	6.66016E+002	6.66016E+002	4.13700E-002	0.00000E+000	6.66885E+002
Concrete/Industrial Saws	3.92960E-001	2.96490E+000	2.91159E+000	4.90000E-003	1.98510E-001	1.98510E-001	0.00000E+000	4.20985E+002	4.20985E+002	3.18500E-002	0.00000E+000	4.21654E+002
Cranes	3.35958E+000	3.21382E+001	1.65650E+001	5.50600E-002	1.35233E+000	1.24989E+000	0.00000E+000	4.84473E+003	4.84473E+003	1.08167E+000	0.00000E+000	4.86744E+003
Excavators	1.90796E+000	1.61719E+001	2.59029E+001	4.19800E-002	7.84620E-001	7.24790E-001	0.00000E+000	3.72518E+003	3.72518E+003	9.31730E-001	0.00000E+000	3.74475E+003
Forklifts	3.63820E+000	2.99870E+001	3.68179E+001	5.11600E-002	1.82793E+000	1.68645E+000	0.00000E+000	4.50206E+003	4.50206E+003	1.01810E+000	0.00000E+000	4.52344E+003
Generator Sets	3.29434E+000	2.84931E+001	3.83708E+001	6.86300E-002	1.33432E+000	1.33432E+000	0.00000E+000	5.89737E+003	5.89737E+003	2.64610E-001	0.00000E+000	5.90293E+003
Graders	2.67092E+000	2.23924E+001	2.28846E+001	3.45100E-002	1.23213E+000	1.13912E+000	0.00000E+000	3.03808E+003	3.03808E+003	6.82140E-001	0.00000E+000	3.05240E+003
Off-Highway Trucks	3.10490E+000	2.08260E+001	1.79285E+001	6.90100E-002	7.62580E-001	7.07060E-001	0.00000E+000	6.43830E+003	6.43830E+003	1.43600E+000	0.00000E+000	6.46845E+003
Pavers	1.26545E+000	1.06295E+001	1.50230E+001	2.52000E-002	5.18900E-001	4.85360E-001	0.00000E+000	2.21652E+003	2.21652E+003	5.03320E-001	0.00000E+000	2.22709E+003
Paving Equipment	1.05551E+000	8.59379E+000	1.34410E+001	2.24100E-002	4.27070E-001	3.99620E-001	0.00000E+000	1.97041E+003	1.97041E+003	4.45760E-001	0.00000E+000	1.97977E+003
Plate Compactors	1.04610E-001	6.55520E-001	5.49020E-001	1.27000E-003	2.54800E-002	2.54800E-002	0.00000E+000	8.15917E+001	8.15917E+001	8.47000E-003	0.00000E+000	8.17696E+001
Rollers	9.44300E-001	8.59262E+000	9.94314E+000	1.46100E-002	4.78890E-001	4.44660E-001	0.00000E+000	1.28571E+003	1.28571E+003	2.92290E-001	0.00000E+000	1.29185E+003
Rubber Tired Dozers	9.74448E+000	9.11444E+001	7.35997E+001	1.07050E-001	4.11129E+000	3.80964E+000	0.00000E+000	9.95632E+003	9.95632E+003	2.38856E+000	0.00000E+000	1.00065E+004
Scrapers	8.88360E+000	8.17625E+001	6.16559E+001	1.56760E-001	3.21125E+000	2.98305E+000	0.00000E+000	1.46298E+004	1.46298E+004	3.29013E+000	0.00000E+000	1.46989E+004
Tractors/Loaders/Backhoes	7.95762E+000	7.03796E+001	9.87967E+001	1.42850E-001	3.60935E+000	3.33913E+000	0.00000E+000	1.25670E+004	1.25670E+004	2.84247E+000	0.00000E+000	1.26267E+004
Welders	2.80072E+000	1.46218E+001	1.76991E+001	2.66700E-002	5.76530E-001	5.76530E-001	0.00000E+000	1.96389E+003	1.96389E+003	2.27560E-001	0.00000E+000	1.96867E+003

CalEEMod Version: CalEEMod.2013.2.2

Date: 8/20/2014 10:38 AM

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	5.12530E-001	3.43093E+000	4.74225E+000	7.75000E-003	1.87380E-001	1.87380E-001	0.00000E+000	6.66016E+002	6.66016E+002	4.13700E-002	0.00000E+000	6.66884E+002
Concrete/Industrial Saws	3.92960E-001	2.96489E+000	2.91158E+000	4.90000E-003	1.98510E-001	1.98510E-001	0.00000E+000	4.20985E+002	4.20985E+002	3.18500E-002	0.00000E+000	4.21653E+002
Cranes	3.35958E+000	3.21382E+001	1.65650E+001	5.50600E-002	1.35233E+000	1.24988E+000	0.00000E+000	4.84472E+003	4.84472E+003	1.08167E+000	0.00000E+000	4.86743E+003
Excavators	1.90796E+000	1.61719E+001	2.59029E+001	4.19800E-002	7.84620E-001	7.24790E-001	0.00000E+000	3.72518E+003	3.72518E+003	9.31730E-001	0.00000E+000	3.74475E+003
Forklifts	3.63820E+000	2.99869E+001	3.68178E+001	5.11600E-002	1.82793E+000	1.68645E+000	0.00000E+000	4.50205E+003	4.50205E+003	1.01810E+000	0.00000E+000	4.52343E+003
Generator Sets	3.29434E+000	2.84931E+001	3.83707E+001	6.86300E-002	1.33432E+000	1.33432E+000	0.00000E+000	5.89737E+003	5.89737E+003	2.64610E-001	0.00000E+000	5.90292E+003
Graders	2.67092E+000	2.23924E+001	2.28846E+001	3.45100E-002	1.23213E+000	1.13912E+000	0.00000E+000	3.03808E+003	3.03808E+003	6.82140E-001	0.00000E+000	3.05240E+003
Off-Highway Trucks	3.10490E+000	2.08260E+001	1.79284E+001	6.90100E-002	7.62580E-001	7.07060E-001	0.00000E+000	6.43829E+003	6.43829E+003	1.43599E+000	0.00000E+000	6.46845E+003
Pavers	1.26545E+000	1.06295E+001	1.50230E+001	2.52000E-002	5.18900E-001	4.85360E-001	0.00000E+000	2.21652E+003	2.21652E+003	5.03320E-001	0.00000E+000	2.22709E+003
Paving Equipment	1.05551E+000	8.59378E+000	1.34410E+001	2.24100E-002	4.27070E-001	3.99620E-001	0.00000E+000	1.97041E+003	1.97041E+003	4.45760E-001	0.00000E+000	1.97977E+003
Plate Compactors	1.04610E-001	6.55520E-001	5.49020E-001	1.27000E-003	2.54800E-002	2.54800E-002	0.00000E+000	8.15916E+001	8.15916E+001	8.47000E-003	0.00000E+000	8.17695E+001
Rollers	9.44300E-001	8.59261E+000	9.94313E+000	1.46100E-002	4.78890E-001	4.44660E-001	0.00000E+000	1.28571E+003	1.28571E+003	2.92290E-001	0.00000E+000	1.29185E+003
Rubber Tired Dozers	9.74447E+000	9.11443E+001	7.35996E+001	1.07050E-001	4.11129E+000	3.80964E+000	0.00000E+000	9.95631E+003	9.95631E+003	2.38856E+000	0.00000E+000	1.00065E+004
Scrapers	8.88359E+000	8.17625E+001	6.16558E+001	1.56750E-001	3.21125E+000	2.98304E+000	0.00000E+000	1.46298E+004	1.46298E+004	3.29012E+000	0.00000E+000	1.46989E+004
Tractors/Loaders/Backhoes	7.95761E+000	7.03795E+001	9.87965E+001	1.42850E-001	3.60934E+000	3.33912E+000	0.00000E+000	1.25670E+004	1.25670E+004	2.84246E+000	0.00000E+000	1.26267E+004
Welders	2.80072E+000	1.46218E+001	1.76991E+001	2.66700E-002	5.76530E-001	5.76530E-001	0.00000E+000	1.96389E+003	1.96389E+003	2.27560E-001	0.00000E+000	1.96867E+003

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	2.91465E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18616E-006	1.18616E-006	0.00000E+000	0.00000E+000	1.18461E-006
Concrete/Industrial Saws	0.00000E+000	3.37280E-006	3.43455E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18769E-006	1.18769E-006	0.00000E+000	0.00000E+000	1.18581E-006
Cranes	0.00000E+000	9.33468E-007	1.20737E-006	0.00000E+000	0.00000E+000	8.00070E-006	0.00000E+000	1.18892E-006	1.18892E-006	0.00000E+000	0.00000E+000	1.18748E-006
Excavators	0.00000E+000	1.23671E-006	1.15817E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18920E-006	1.18920E-006	0.00000E+000	0.00000E+000	1.19100E-006
Forklifts	0.00000E+000	1.33391E-006	1.08643E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19057E-006	1.19057E-006	0.00000E+000	0.00000E+000	1.18936E-006
Generator Sets	0.00000E+000	1.05289E-006	1.04246E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18866E-006	1.18866E-006	0.00000E+000	0.00000E+000	1.18924E-006
Graders	0.00000E+000	1.33974E-006	8.73951E-007	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18825E-006	1.18825E-006	0.00000E+000	0.00000E+000	1.18923E-006
Off-Highway Trucks	0.00000E+000	9.60339E-007	1.11554E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18976E-006	1.18976E-006	6.96379E-006	0.00000E+000	1.18885E-006
Pavers	0.00000E+000	1.88156E-006	1.33129E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18655E-006	1.18655E-006	0.00000E+000	0.00000E+000	1.18989E-006
Paving Equipment	0.00000E+000	1.16363E-006	1.48798E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19264E-006	1.19264E-006	0.00000E+000	0.00000E+000	1.19205E-006
Plate Compactors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.22561E-006	1.22561E-006	0.00000E+000	0.00000E+000	1.22295E-006
Rollers	0.00000E+000	1.16379E-006	1.00572E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18222E-006	1.18222E-006	0.00000E+000	0.00000E+000	1.19209E-006
Rubber Tired Dozers	1.02622E-006	1.20688E-006	1.22283E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18919E-006	1.18919E-006	0.00000E+000	0.00000E+000	1.18923E-006
Scrapers	1.12567E-006	1.10075E-006	1.29752E-006	6.37918E-005	0.00000E+000	3.35227E-006	0.00000E+000	1.18935E-006	1.18935E-006	3.03939E-006	0.00000E+000	1.18921E-006
Tractors/Loaders/Backhoes	1.25666E-006	1.27878E-006	1.21462E-006	0.00000E+000	2.77058E-006	2.99479E-006	0.00000E+000	1.18883E-006	1.18883E-006	3.51807E-006	0.00000E+000	1.18955E-006
Welders	0.00000E+000	1.36782E-006	1.13000E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18642E-006	1.18642E-006	0.00000E+000	0.00000E+000	1.18862E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	55.00	PM2.5 Reduction	55.00		

No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	2.28	0.61	2.28	0.61	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	13.63	3.67	13.63	3.67	0.00	0.00
Demolition	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	Roads	0.11	0.03	0.11	0.03	0.00	0.00
Grading	Fugitive Dust	334.54	174.89	150.55	78.70	0.55	0.55
Grading	Roads	0.83	0.22	0.83	0.22	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.36	0.09	0.36	0.09	0.00	0.00
Site Preparation	Fugitive Dust	942.52	518.08	424.13	233.14	0.55	0.55
Site Preparation	Roads	0.43	0.11	0.43	0.11	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	92.59	92.59	92.59	92.59	92.59
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	10.54	29.39	23.37	38.53	33.82	33.79	0.00	38.56	38.56	36.11	0.00	38.56
Natural Gas	25.28	25.29	25.45	25.27	25.28	25.28	0.00	25.28	25.28	25.28	25.28	25.28
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.07	20.55	0.08	0.70	15.61
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
Yes	Land Use	Increase Density	0.06	14.00	0.00	
Yes	Land Use	Increase Diversity	0.30	0.74		
Yes	Land Use	Improve Walkability Design	0.60	975.00		
No	Land Use	Improve Destination Accessibility	0.00	0.00		
No	Land Use	Increase Transit Accessibility	0.25	0.00		
Yes	Land Use	Integrate Below Market Rate Housing	0.01	15.00		
	Land Use	Land Use SubTotal	0.31			

Yes	Neighborhood Enhancements	Improve Pedestrian Network	1.00	Project Site		
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.01			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.01			
Yes	Parking Policy Pricing	Limit Parking Supply	0.00	0.00		
Yes	Parking Policy Pricing	Unbundle Parking Costs	0.03	25.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.03			
No	Transit Improvements	Provide BRT System	0.00	0.00		
No	Transit Improvements	Expand Transit Network	0.00	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		0.00	
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.33			
Yes	Commute	Implement Trip Reduction Program	0.00	100.00	Voluntary	
Yes	Commute	Transit Subsidy	0.00	100.00	$0.75	
No	Commute	Implement Employee Parking "Cash Out"	0.00	0.00		
No	Commute	Workplace Parking Charge	0.00	0.00		
Yes	Commute	Encourage Telecommuting and Alternative Work Schedules	11.00	5.50	0.00	5.50
Yes	Commute	Market Commute Trip Reduction Option	0.04	100.00		
No	Commute	Employee Vanpool/Shuttle	0.00	0.00	2.00	
Yes	Commute	Provide Ride Sharing Program	0.00	100.00		
	Commute	Commute Subtotal	0.15			

No	School Trip	Implement School Bus Program	0.00	0.00		
		Total VMT Reduction	0.43			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	100.00
No	Use Low VOC Paint (Residential Exterior)	150.00
No	Use Low VOC Paint (Non-residential Interior)	100.00
No	Use Low VOC Paint (Non-residential Exterior)	150.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	30.00	
No	Install High Efficiency Lighting		
Yes	On-site Renewable	176,651,000.00	

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00

DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Apply Water Conservation on Strategy	0.00	46.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	37.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	61.00

Concord - Alternative 2

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,550.00	1000sqft	29.00	2,550,000.00	0
Medical Office Building	400.00	1000sqft	55.00	400,000.00	0
Office Park	365.00	1000sqft	35.50	365,000.00	0
Research & Development	765.00	1000sqft	90.50	765,000.00	0
Day-Care Center	43.00	1000sqft	0.99	43,000.00	0
Elementary School	125.00	1000sqft	2.87	125,000.00	0
High School	115.00	1000sqft	2.64	115,000.00	0
Junior High School	80.00	1000sqft	1.84	80,000.00	0
Library	29.00	1000sqft	0.67	29,000.00	0
University/College (4Yr)	10,000.00	Student	42.19	1,837,974.68	0
Parking Lot	148.00	Acre	148.00	6,446,880.00	0
Arena	75.00	Acre	75.00	3,267,000.00	0
City Park	257.00	Acre	257.00	11,194,920.00	0
Golf Course	88.00	Hole	88.00	0.00	0
Health Club	138.00	1000sqft	3.17	138,000.00	0
Hotel	358.00	Room	19.00	519,816.00	0
Apartments Low Rise	3,373.00	Dwelling Unit	337.00	3,373,000.00	9753
Apartments Mid Rise	7,297.00	Dwelling Unit	144.00	7,297,000.00	18400
Condo/Townhouse	4,160.00	Dwelling Unit	231.00	4,160,000.00	10762
Single Family Housing	1,043.00	Dwelling Unit	174.00	1,877,400.00	2727
Regional Shopping Center	850.00	1000sqft	83.00	850,000.00	0
Strip Mall	650.00	1000sqft	38.00	650,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2035

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage and population based on site-specific data.

Construction Phase - Total days updated based on schedule.

Off-road Equipment - Unit amounts revised based on site specific factors.

Off-road Equipment -

Off-road Equipment - Additonal equipment and revised unit amounts based on site specfics.

Off-road Equipment -

Trips and VMT - Worker and vendor trips for Bldg. Constr. and Arch. Coating updated based on site-specific data.

Grading - Total acres disturbed based site-specifc data.

Woodstoves - Updated based on site specific data.

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation - Mitigation based on site-specific data.

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	5,217.00
tblConstructionPhase	NumDays	155,000.00	5,217.00
tblConstructionPhase	NumDays	10,000.00	1,566.00
tblConstructionPhase	NumDays	15,500.00	5,217.00
tblConstructionPhase	NumDays	11,000.00	5,217.00

tblConstructionPhase	NumDays	6,000.00	5,217.00
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/31/2041	12/31/2035
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2022	1/1/2016
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	6.29	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	215.60	0.00
tblFireplaces	NumberGas	1,855.15	0.00
tblFireplaces	NumberGas	4,013.35	0.00
tblFireplaces	NumberGas	2,288.00	0.00
tblFireplaces	NumberGas	573.65	0.00
tblFireplaces	NumberNoFireplace	1,045.63	0.00

tblFireplaces	NumberNoFireplace	2,262.07	0.00
tblFireplaces	NumberNoFireplace	1,289.60	0.00
tblFireplaces	NumberWood	472.22	0.00
tblFireplaces	NumberWood	1,021.58	0.00
tblFireplaces	NumberWood	582.40	0.00
tblFireplaces	NumberWood	469.35	0.00
tblGrading	AcresOfGrading	26,085.00	1,859.00
tblLandUse	LotAcreage	58.54	29.00
tblLandUse	LotAcreage	9.18	55.00
tblLandUse	LotAcreage	8.38	35.50
tblLandUse	LotAcreage	17.56	90.50
tblLandUse	LotAcreage	614.34	88.00
tblLandUse	LotAcreage	11.93	19.00
tblLandUse	LotAcreage	210.81	337.00
tblLandUse	LotAcreage	192.03	144.00
tblLandUse	LotAcreage	260.00	231.00
tblLandUse	LotAcreage	338.64	174.00
tblLandUse	LotAcreage	19.51	83.00
tblLandUse	LotAcreage	14.92	38.00
tblLandUse	Population	9,647.00	9,753.00
tblLandUse	Population	20,869.00	18,400.00
tblLandUse	Population	11,898.00	10,762.00
tblLandUse	Population	2,983.00	2,727.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSequestration	NumberOfNewTrees	0.00	10,560.00
tblTripsAndVMT	VendorTripNumber	6,512.00	147.00
tblTripsAndVMT	WorkerTripNumber	22,833.00	620.00
tblTripsAndVMT	WorkerTripNumber	4,567.00	124.00
tblWaterMitigation	PercentReductionInFlowToilet	20	37
tblWoodstoves	NumberCatalytic	16.86	0.00
tblWoodstoves	NumberCatalytic	36.48	0.00
tblWoodstoves	NumberCatalytic	20.80	0.00
tblWoodstoves	NumberCatalytic	36.51	0.00
tblWoodstoves	NumberNoncatalytic	16.86	0.00
tblWoodstoves	NumberNoncatalytic	36.48	0.00
tblWoodstoves	NumberNoncatalytic	20.80	0.00
tblWoodstoves	NumberNoncatalytic	36.51	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	26.24	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	1,355.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	17.4842	52.2930	41.6495	0.0601	64.9264	2.7733	67.6996	34.9421	2.5772	37.5193	0.0000	5,368.2108	5,368.2108	1.1903	0.0000	5,393.2064
2017	17.0059	48.3134	39.4982	0.0598	64.9221	2.5312	67.4534	34.9409	2.3516	37.2925	0.0000	5,251.0422	5,251.0422	1.1743	0.0000	5,275.7032
2018	16.4094	42.1364	36.7299	0.0600	64.9264	2.1456	67.0720	34.9420	1.9941	36.9362	0.0000	5,176.2383	5,176.2383	1.1689	0.0000	5,200.7849
2019	16.0074	38.2472	35.1438	0.0600	64.9263	1.8981	66.8244	34.9420	1.7637	36.7058	0.0000	5,083.4634	5,083.4634	1.1598	0.0000	5,107.8190
2020	15.7428	34.8969	33.8293	0.0602	64.9306	1.6954	66.6259	34.9432	1.5750	36.5182	0.0000	4,987.2488	4,987.2488	1.1569	0.0000	5,011.5446
2021	15.3674	31.2430	32.3717	0.0600	64.9263	1.4824	66.4088	34.9420	1.3769	36.3189	0.0000	4,954.1529	4,954.1529	1.1467	0.0000	4,978.2335
2022	14.6528	24.1799	27.5253	0.0544	64.9044	1.1173	66.0217	34.9362	1.0377	35.9739	0.0000	4,457.1309	4,457.1309	1.0103	0.0000	4,478.3464
2023	14.4718	22.0675	26.8452	0.0544	64.9044	0.9924	65.8968	34.9362	0.9215	35.8577	0.0000	4,446.2450	4,446.2450	1.0067	0.0000	4,467.3864
2024	14.4460	20.6811	26.4664	0.0548	64.9128	0.9019	65.8147	34.9385	0.8372	35.7757	0.0000	4,470.7741	4,470.7741	1.0114	0.0000	4,492.0141
2025	14.1932	18.2472	25.3517	0.0546	64.9087	0.7644	65.6730	34.9374	0.7096	35.6470	0.0000	4,444.9520	4,444.9520	1.0047	0.0000	4,466.0504
2026	14.1813	18.2204	25.1907	0.0546	64.9087	0.7641	65.6728	34.9374	0.7094	35.6467	0.0000	4,437.6341	4,437.6341	1.0038	0.0000	4,458.7139
2027	14.1722	18.2038	25.0687	0.0546	64.9087	0.7642	65.6729	34.9374	0.7094	35.6468	0.0000	4,431.2874	4,431.2874	1.0030	0.0000	4,452.3511
2028	14.1092	18.1183	24.8661	0.0544	64.9046	0.7612	65.6658	34.9363	0.7067	35.6430	0.0000	4,408.8478	4,408.8478	0.9985	0.0000	4,429.8164
2029	14.1541	18.1739	24.8390	0.0546	64.9088	0.7642	65.6730	34.9374	0.7095	35.6469	0.0000	4,421.0482	4,421.0482	1.0017	0.0000	4,442.0833
2030	14.2405	10.9122	22.6898	0.0589	64.9088	0.3163	65.2251	34.9374	0.3144	35.2519	0.0000	4,995.7582	4,995.7582	0.1907	0.0000	4,999.7631
2031	14.2340	10.9008	22.6085	0.0589	64.9088	0.3163	65.2251	34.9374	0.3145	35.2519	0.0000	4,992.2868	4,992.2868	0.1901	0.0000	4,996.2790

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2032	14.2816	10.9328	22.6236	0.0591	64.9130	0.3175	65.2305	34.9386	0.3157	35.2542	0.0000	5,008.4985	5,008.4985	0.1903	0.0000	5,012.4948
2033	14.1644	10.8389	22.3892	0.0586	64.9047	0.3151	65.2198	34.9363	0.3133	35.2496	0.0000	4,967.8257	4,967.8257	0.1884	0.0000	4,971.7821
2034	14.1579	10.8311	22.3317	0.0586	64.9047	0.3151	65.2198	34.9363	0.3133	35.2496	0.0000	4,965.7478	4,965.7478	0.1880	0.0000	4,969.6950
2035	14.0049	8.7648	22.1328	0.0589	64.9089	0.2077	65.1166	34.9375	0.2059	35.1433	0.0000	4,983.1222	4,983.1222	0.1715	0.0000	4,986.7226
Total	**297.4809**	**468.2026**	**560.1510**	**1.1495**	**1,298.2681**	**21.1435**	**1,319.4116**	**698.7724**	**19.7565**	**718.5289**	**0.0000**	**96,251.5150**	**96,251.5150**	**16.1560**	**0.0000**	**96,590.7902**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	17.4842	52.2929	41.6495	0.0601	29.8253	2.7733	32.5985	15.8871	2.5772	18.4643	0.0000	5,368.2060	5,368.2060	1.1903	0.0000	5,393.2015
2017	17.0059	48.3133	39.4981	0.0598	29.8210	2.5312	32.3523	15.8860	2.3516	18.2376	0.0000	5,251.0375	5,251.0375	1.1743	0.0000	5,275.6984
2018	16.4094	42.1364	36.7299	0.0600	29.8253	2.1456	31.9709	15.8871	1.9941	17.8812	0.0000	5,176.2336	5,176.2336	1.1689	0.0000	5,200.7801
2019	16.0074	38.2472	35.1438	0.0600	29.8252	1.8981	31.7233	15.8871	1.7637	17.6508	0.0000	5,083.4588	5,083.4588	1.1598	0.0000	5,107.8143
2020	15.7428	34.8969	33.8292	0.0602	29.8295	1.6954	31.5248	15.8882	1.5750	17.4632	0.0000	4,987.2442	4,987.2442	1.1569	0.0000	5,011.5400
2021	15.3674	31.2430	32.3717	0.0600	29.8252	1.4824	31.3077	15.8871	1.3769	17.2640	0.0000	4,954.1483	4,954.1483	1.1467	0.0000	4,978.2289
2022	14.6528	24.1799	27.5253	0.0544	29.8033	1.1173	30.9206	15.8813	1.0377	16.9189	0.0000	4,457.1269	4,457.1269	1.0103	0.0000	4,478.3423
2023	14.4718	22.0674	26.8452	0.0544	29.8033	0.9924	30.7957	15.8813	0.9215	16.8028	0.0000	4,446.2410	4,446.2410	1.0067	0.0000	4,467.3824

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	14.4460	20.6810	26.4664	0.0548	29.8117	0.9019	30.7136	15.8835	0.8372	16.7207	0.0000	4,470.7700	4,470.7700	1.0114	0.0000	4,492.0100
2025	14.1931	18.2472	25.3516	0.0546	29.8076	0.7644	30.5719	15.8824	0.7096	16.5920	0.0000	4,444.9480	4,444.9480	1.0047	0.0000	4,466.0464
2026	14.1813	18.2204	25.1907	0.0546	29.8076	0.7641	30.5717	15.8824	0.7094	16.5918	0.0000	4,437.6301	4,437.6301	1.0038	0.0000	4,458.7099
2027	14.1722	18.2037	25.0686	0.0546	29.8076	0.7642	30.5718	15.8824	0.7094	16.5919	0.0000	4,431.2833	4,431.2833	1.0030	0.0000	4,452.3471
2028	14.1092	18.1183	24.8660	0.0544	29.8035	0.7612	30.5647	15.8813	0.7067	16.5880	0.0000	4,408.8438	4,408.8438	0.9985	0.0000	4,429.8124
2029	14.1541	18.1738	24.8390	0.0546	29.8077	0.7642	30.5719	15.8825	0.7095	16.5919	0.0000	4,421.0442	4,421.0442	1.0017	0.0000	4,442.0793
2030	14.2405	10.9122	22.6898	0.0589	29.8077	0.3163	30.1240	15.8825	0.3144	16.1969	0.0000	4,995.7535	4,995.7535	0.1907	0.0000	4,999.7584
2031	14.2340	10.9008	22.6085	0.0589	29.8077	0.3163	30.1240	15.8825	0.3145	16.1969	0.0000	4,992.2821	4,992.2821	0.1901	0.0000	4,996.2743
2032	14.2815	10.9328	22.6236	0.0591	29.8119	0.3175	30.1294	15.8836	0.3157	16.1993	0.0000	5,008.4938	5,008.4938	0.1903	0.0000	5,012.4901
2033	14.1644	10.8389	22.3892	0.0586	29.8036	0.3151	30.1187	15.8814	0.3133	16.1947	0.0000	4,967.8211	4,967.8211	0.1884	0.0000	4,971.7774
2034	14.1579	10.8311	22.3316	0.0586	29.8036	0.3151	30.1187	15.8814	0.3133	16.1947	0.0000	4,965.7431	4,965.7431	0.1880	0.0000	4,969.6903
2035	14.0049	8.7648	22.1328	0.0589	29.8078	0.2077	30.0155	15.8825	0.2059	16.0884	0.0000	4,983.1175	4,983.1175	0.1715	0.0000	4,986.7179
Total	**297.4808**	**468.2020**	**560.1505**	**1.1495**	**596.2461**	**21.1435**	**617.3896**	**317.6736**	**19.7564**	**337.4300**	**0.0000**	**96,251.4268**	**96,251.4268**	**16.1559**	**0.0000**	**96,590.7016**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.07**	**0.00**	**53.21**	**54.54**	**0.00**	**53.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	207.3251	1.3564	117.6002	6.2400e-003		0.6541	0.6541		0.6541	0.6541	0.0000	192.8248	192.8248	0.1841	0.0000	196.6899
Energy	2.5274	22.3484	14.6955	0.1379		1.7462	1.7462		1.7462	1.7462	0.0000	87,171.2077	87,171.2077	3.2900	1.0401	87,562.7216
Mobile	79.4915	135.0584	762.8796	2.7610	191.7249	3.2431	194.9679	51.3304	2.9952	54.3256	0.0000	175,495.1899	175,495.1899	4.8145	0.0000	175,596.2947
Waste						0.0000	0.0000		0.0000	0.0000	4,055.2926	0.0000	4,055.2926	239.6609	0.0000	9,088.1720
Water						0.0000	0.0000		0.0000	0.0000	711.0265	5,728.0735	6,439.1000	73.2882	1.7780	8,529.3226
Total	**289.3440**	**158.7632**	**895.1753**	**2.9051**	**191.7249**	**5.6434**	**197.3683**	**51.3304**	**5.3955**	**56.7259**	**4,766.3190**	**268,587.2959**	**273,353.6149**	**321.2378**	**2.8180**	**280,973.2007**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	207.3251	1.3564	117.6002	6.2400e-003		0.6541	0.6541		0.6541	0.6541	0.0000	192.8248	192.8248	0.1841	0.0000	196.6899
Energy	1.8931	16.7353	10.9773	0.1033		1.3079	1.3079		1.3079	1.3079	0.0000	25,171.2655	25,171.2655	0.6501	0.4037	25,310.0608
Mobile	71.0673	95.5037	584.7179	1.7054	115.2917	2.1524	117.4441	30.8670	1.9886	32.8556	0.0000	108,350.0048	108,350.0048	3.0874	0.0000	108,414.8394
Waste						0.0000	0.0000		0.0000	0.0000	1,581.5641	0.0000	1,581.5641	93.4678	0.0000	3,544.3871
Water						0.0000	0.0000		0.0000	0.0000	711.0265	4,421.3398	5,132.3663	73.2292	1.7657	7,217.5584
Total	**280.2854**	**113.5954**	**713.2954**	**1.8149**	**115.2917**	**4.1144**	**119.4061**	**30.8670**	**3.9507**	**34.8176**	**2,292.5906**	**138,135.4348**	**140,428.0254**	**170.6185**	**2.1694**	**144,683.5355**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**3.13**	**28.45**	**20.32**	**37.53**	**39.87**	**27.09**	**39.50**	**39.87**	**26.78**	**38.62**	**51.90**	**48.57**	**48.63**	**46.89**	**23.02**	**48.51**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	7,476.4800
Total	**7,476.4800**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	12/31/2021	5	1566	
2	Site Preparation	Site Preparation	1/1/2016	12/31/2035	5	5217	
3	Grading	Grading	1/1/2016	12/31/2035	5	5217	
4	Building Construction	Building Construction	1/1/2016	12/31/2035	5	5217	
5	Paving	Paving	1/1/2016	12/31/2035	5	5217	
6	Architectural Coating	Architectural Coating	1/1/2016	12/31/2035	5	5217	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1859

Acres of Paving: 0

Residential Indoor: 33,832,485; Residential Outdoor: 11,277,495; Non-Residential Indoor: 34,684,676; Non-Residential Outdoor: 11,561,559 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Off-Highway Trucks	2	8.00	400	0.38
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	4	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	4	7.00	226	0.29
Building Construction	Forklifts	12	8.00	89	0.20
Building Construction	Generator Sets	4	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	12	7.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	14	35.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	36	620.00	147.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	124.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Integrate Below Market Rate Housing

Improve Pedestrian Network

Unbundle Parking Cost

Implement Trip Reduction Program

Transit Subsidy

Encourage Telecommuting and Alternative Work Schedules

Market Commute Trip Reduction Option

Provide Riade Sharing Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	71.0673	95.5037	584.7179	1.7054	115.2917	2.1524	117.4441	30.8670	1.9886	32.8556	0.0000	108,350.0048	108,350.0048	3.0874	0.0000	108,414.8394
Unmitigated	79.4915	135.0584	762.8796	2.7610	191.7249	3.2431	194.9679	51.3304	2.9952	54.3256	0.0000	175,495.1899	175,495.1899	4.8145	0.0000	175,596.2947

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	22,228.07	24,150.68	20474.11	49,674,973	30,855,420
Apartments Mid Rise	48,087.23	52,246.52	44292.79	107,464,654	66,751,259
Arena	2,499.75	0.00	0.00	35,025	20,595
City Park	408.63	408.63	408.63	872,365	511,495
Condo/Townhouse	27,414.40	29,785.60	25251.20	61,265,309	38,054,712
Day-Care Center	3,408.18	267.03	250.69	2,953,935	1,696,242
Elementary School	1,928.75	0.00	0.00	3,037,697	1,742,472
General Office Building	28,075.50	6,043.50	2499.00	50,840,284	29,809,222
Golf Course	3,145.12	3,575.44	3478.64	5,881,323	3,448,412
Health Club	4,544.34	2,880.06	3688.74	7,229,174	4,244,290
High School	1,482.35	502.55	205.85	3,037,123	1,741,756
Hotel	2,924.86	2,932.02	2130.10	5,343,262	3,136,388
Junior High School	1,102.40	0.00	0.00	1,770,292	1,015,330
Library	1,630.96	1,349.95	739.21	2,480,292	1,423,077
Medical Office Building	14,452.00	3,584.00	620.00	21,379,879	12,539,092
Office Park	4,168.30	598.60	277.40	7,775,632	4,559,090
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	36,499.00	42,474.50	21454.00	61,722,216	36,239,356
Research & Development	6,204.15	1,453.50	849.15	11,930,955	6,995,482
Single Family Housing	9,981.51	10,513.44	9147.11	22,185,923	13,780,702
Strip Mall	28,808.00	27,326.00	13279.50	40,622,882	23,850,602
University/College (4Yr)	23,800.00	13,000.00	0.00	47,626,180	27,352,559
Total	272,793.50	223,092.02	149,046.12	515,129,375	309,767,553

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Arena	9.50	7.30	7.30	0.00	81.00	19.00	0.66	0.28	0.6
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Golf Course	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
High School	9.50	7.30	7.30	77.80	17.20	5.00	75	19	6
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12
Library	9.50	7.30	7.30	52.00	43.00	5.00	44	44	12
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.526722	0.065482	0.174404	0.141043	0.036208	0.004860	0.010810	0.027646	0.001315	0.001390	0.006584	0.001558	0.001978

Concord - Alternative 2

Contra Costa County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,550.00	1000sqft	29.00	2,550,000.00	0
Medical Office Building	400.00	1000sqft	55.00	400,000.00	0
Office Park	365.00	1000sqft	35.50	365,000.00	0
Research & Development	765.00	1000sqft	90.50	765,000.00	0
Day-Care Center	43.00	1000sqft	0.99	43,000.00	0
Elementary School	125.00	1000sqft	2.87	125,000.00	0
High School	115.00	1000sqft	2.64	115,000.00	0
Junior High School	80.00	1000sqft	1.84	80,000.00	0
Library	29.00	1000sqft	0.67	29,000.00	0
University/College (4Yr)	10,000.00	Student	42.19	1,837,974.68	0
Parking Lot	148.00	Acre	148.00	6,446,880.00	0
Arena	75.00	Acre	75.00	3,267,000.00	0
City Park	257.00	Acre	257.00	11,194,920.00	0
Golf Course	88.00	Hole	88.00	0.00	0
Health Club	138.00	1000sqft	3.17	138,000.00	0
Hotel	358.00	Room	19.00	519,816.00	0
Apartments Low Rise	3,373.00	Dwelling Unit	337.00	3,373,000.00	9753
Apartments Mid Rise	7,297.00	Dwelling Unit	144.00	7,297,000.00	18400
Condo/Townhouse	4,160.00	Dwelling Unit	231.00	4,160,000.00	10762
Single Family Housing	1,043.00	Dwelling Unit	174.00	1,877,400.00	2727
Regional Shopping Center	850.00	1000sqft	83.00	850,000.00	0
Strip Mall	650.00	1000sqft	38.00	650,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2035

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage and population based on site-specific data.

Construction Phase - Total days updated based on schedule.

Off-road Equipment - Unit amounts revised based on site specific factors.

Off-road Equipment -

Off-road Equipment - Additonal equipment and revised unit amounts based on site specfics.

Off-road Equipment -

Trips and VMT - Worker and vendor trips for Bldg. Constr. and Arch. Coating updated based on site-specific data.

Grading - Total acres disturbed based site-specifc data.

Woodstoves - Updated based on site specific data.

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation - Mitigation based on site-specific data.

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	5,217.00
tblConstructionPhase	NumDays	155,000.00	5,217.00
tblConstructionPhase	NumDays	10,000.00	1,566.00
tblConstructionPhase	NumDays	15,500.00	5,217.00
tblConstructionPhase	NumDays	11,000.00	5,217.00

tblConstructionPhase	NumDays	6,000.00	5,217.00
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/31/2041	12/31/2035
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2022	1/1/2016
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	6.29	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	215.60	0.00
tblFireplaces	NumberGas	1,855.15	0.00
tblFireplaces	NumberGas	4,013.35	0.00
tblFireplaces	NumberGas	2,288.00	0.00
tblFireplaces	NumberGas	573.65	0.00
tblFireplaces	NumberNoFireplace	1,045.63	0.00

tblFireplaces	NumberNoFireplace	2,262.07	0.00
tblFireplaces	NumberNoFireplace	1,289.60	0.00
tblFireplaces	NumberWood	472.22	0.00
tblFireplaces	NumberWood	1,021.58	0.00
tblFireplaces	NumberWood	582.40	0.00
tblFireplaces	NumberWood	469.35	0.00
tblGrading	AcresOfGrading	26,085.00	1,859.00
tblLandUse	LotAcreage	58.54	29.00
tblLandUse	LotAcreage	9.18	55.00
tblLandUse	LotAcreage	8.38	35.50
tblLandUse	LotAcreage	17.56	90.50
tblLandUse	LotAcreage	614.34	88.00
tblLandUse	LotAcreage	11.93	19.00
tblLandUse	LotAcreage	210.81	337.00
tblLandUse	LotAcreage	192.03	144.00
tblLandUse	LotAcreage	260.00	231.00
tblLandUse	LotAcreage	338.64	174.00
tblLandUse	LotAcreage	19.51	83.00
tblLandUse	LotAcreage	14.92	38.00
tblLandUse	Population	9,647.00	9,753.00
tblLandUse	Population	20,869.00	18,400.00
tblLandUse	Population	11,898.00	10,762.00
tblLandUse	Population	2,983.00	2,727.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSequestration	NumberOfNewTrees	0.00	10,560.00
tblTripsAndVMT	VendorTripNumber	6,512.00	147.00
tblTripsAndVMT	WorkerTripNumber	22,833.00	620.00
tblTripsAndVMT	WorkerTripNumber	4,567.00	124.00
tblWaterMitigation	PercentReductionInFlowToilet	20	37
tblWoodstoves	NumberCatalytic	16.86	0.00
tblWoodstoves	NumberCatalytic	36.48	0.00
tblWoodstoves	NumberCatalytic	20.80	0.00
tblWoodstoves	NumberCatalytic	36.51	0.00
tblWoodstoves	NumberNoncatalytic	16.86	0.00
tblWoodstoves	NumberNoncatalytic	36.48	0.00
tblWoodstoves	NumberNoncatalytic	20.80	0.00
tblWoodstoves	NumberNoncatalytic	36.51	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	26.24	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	1,355.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	134.1126	399.7379	318.6252	0.4683	33.2402	21.2501	54.4903	15.6283	19.7478	35.3762	0.0000	46,023.6723	46,023.6723	10.0537	0.0000	46,234.7997
2017	130.9522	370.7728	303.1301	0.4682	33.2403	19.4701	52.7105	15.6283	18.0887	33.7170	0.0000	45,179.9911	45,179.9911	9.9573	0.0000	45,389.0933
2018	125.8960	322.1038	280.5079	0.4681	33.2401	16.4407	49.6808	15.6283	15.2799	30.9082	0.0000	44,354.2099	44,354.2099	9.8731	0.0000	44,561.5440
2019	122.8160	292.3747	268.2337	0.4680	33.2399	14.5440	47.7840	15.6282	13.5145	29.1426	0.0000	43,548.7068	43,548.7068	9.7962	0.0000	43,754.4276
2020	120.3246	265.7649	257.0520	0.4680	33.2398	12.9412	46.1810	15.6281	12.0224	27.6505	0.0000	42,551.4891	42,551.4891	9.7349	0.0000	42,755.9220
2021	117.9072	238.8604	246.7894	0.4679	33.2401	11.3592	44.5992	15.6282	10.5504	26.1786	0.0000	42,423.1322	42,423.1322	9.6856	0.0000	42,626.5301
2022	112.8574	185.5035	210.4896	0.4264	33.0989	8.5942	41.6930	15.5908	7.9818	23.5726	0.0000	38,350.9025	38,350.9025	8.5660	0.0000	38,530.7882
2023	111.4579	169.3118	205.2296	0.4264	33.0991	7.6334	40.7325	15.5909	7.0882	22.6792	0.0000	38,250.9788	38,250.9788	8.5361	0.0000	38,430.2367
2024	110.4088	157.4531	200.8385	0.4264	33.0994	6.8845	39.9839	15.5910	6.3905	21.9815	0.0000	38,162.8083	38,162.8083	8.5104	0.0000	38,341.5271
2025	108.8884	139.4244	193.0495	0.4264	33.0996	5.8567	38.9563	15.5911	5.4371	21.0282	0.0000	38,082.8538	38,082.8538	8.4861	0.0000	38,261.0615
2026	108.7946	139.2352	191.8553	0.4264	33.0999	5.8547	38.9545	15.5912	5.4352	21.0265	0.0000	38,015.8437	38,015.8437	8.4786	0.0000	38,193.8940
2027	108.7184	139.1196	190.8901	0.4265	33.1001	5.8552	38.9553	15.5913	5.4357	21.0271	0.0000	37,957.7657	37,957.7657	8.4722	0.0000	38,135.6808
2028	108.6451	139.0104	190.0391	0.4265	33.1003	5.8553	38.9556	15.5914	5.4358	21.0272	0.0000	37,907.6555	37,907.6555	8.4663	0.0000	38,085.4479
2029	108.5684	138.9126	189.1305	0.4265	33.1006	5.8555	38.9561	15.5915	5.4360	21.0275	0.0000	37,864.2872	37,864.2872	8.4606	0.0000	38,041.9606
2030	109.2237	83.2776	172.6531	0.4590	33.1008	2.4230	35.5238	15.5916	2.4091	18.0007	0.0000	42,716.0798	42,716.0798	1.6106	0.0000	42,749.9014
2031	109.1650	83.2001	171.9845	0.4590	33.1010	2.4232	35.5241	15.5917	2.4093	18.0009	0.0000	42,684.4972	42,684.4972	1.6055	0.0000	42,718.2116

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2032	109.1038	83.1332	171.4022	0.4590	33.1012	2.4233	35.5244	15.5918	2.4094	18.0011	0.0000	42,658.0535	42,658.0535	1.6010	0.0000	42,691.6736
2033	109.0366	83.0606	170.9084	0.4590	33.1013	2.4233	35.5246	15.5918	2.4094	18.0012	0.0000	42,635.7384	42,635.7384	1.5971	0.0000	42,669.2784
2034	108.9809	83.0065	170.4350	0.4590	33.1015	2.4233	35.5247	15.5919	2.4094	18.0012	0.0000	42,616.7299	42,616.7299	1.5934	0.0000	42,650.1923
2035	107.3857	66.8579	168.2230	0.4590	33.1016	1.5909	34.6926	15.5919	1.5770	17.1690	0.0000	42,600.9573	42,600.9573	1.4478	0.0000	42,631.3618
Total	**2,283.2434**	**3,580.1209**	**4,271.4664**	**8.9740**	**662.8456**	**162.1017**	**824.9473**	**312.0494**	**151.4676**	**463.5170**	**0.0000**	**824,586.3530**	**824,586.3530**	**136.5323**	**0.0000**	**827,453.5322**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	134.1126	399.7379	318.6252	0.4683	19.7838	21.2501	41.0339	8.3234	19.7478	28.0712	0.0000	46,023.6723	46,023.6723	10.0537	0.0000	46,234.7996
2017	130.9522	370.7728	303.1301	0.4682	19.7839	19.4701	39.2540	8.3234	18.0887	26.4121	0.0000	45,179.9911	45,179.9911	9.9573	0.0000	45,389.0932
2018	125.8960	322.1038	280.5079	0.4681	19.7837	16.4407	36.2243	8.3233	15.2799	23.6033	0.0000	44,354.2099	44,354.2099	9.8731	0.0000	44,561.5440
2019	122.8160	292.3747	268.2337	0.4680	19.7835	14.5440	34.3275	8.3232	13.5145	21.8377	0.0000	43,548.7067	43,548.7067	9.7962	0.0000	43,754.4276
2020	120.3246	265.7649	257.0520	0.4680	19.7834	12.9412	32.7246	8.3232	12.0224	20.3456	0.0000	42,551.4890	42,551.4890	9.7349	0.0000	42,755.9220
2021	117.9072	238.8604	246.7894	0.4679	19.7836	11.3592	31.1428	8.3233	10.5504	18.8737	0.0000	42,423.1322	42,423.1322	9.6856	0.0000	42,626.5301
2022	112.8574	185.5035	210.4896	0.4264	19.6424	8.5942	28.2366	8.2859	7.9818	16.2677	0.0000	38,350.9025	38,350.9025	8.5660	0.0000	38,530.7882
2023	111.4579	169.3118	205.2296	0.4264	19.6427	7.6334	27.2761	8.2860	7.0882	15.3742	0.0000	38,250.9788	38,250.9788	8.5361	0.0000	38,430.2367

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	110.4088	157.4531	200.8385	0.4264	19.6429	6.8845	26.5275	8.2861	6.3905	14.6765	0.0000	38,162.8082	38,162.8082	8.5104	0.0000	38,341.5271
2025	108.8884	139.4244	193.0495	0.4264	19.6432	5.8567	25.4999	8.2862	5.4371	13.7233	0.0000	38,082.8538	38,082.8538	8.4861	0.0000	38,261.0614
2026	108.7946	139.2352	191.8553	0.4264	19.6434	5.8547	25.4981	8.2863	5.4352	13.7215	0.0000	38,015.8437	38,015.8437	8.4786	0.0000	38,193.8939
2027	108.7184	139.1196	190.8901	0.4265	19.6437	5.8552	25.4989	8.2864	5.4357	13.7221	0.0000	37,957.7657	37,957.7657	8.4722	0.0000	38,135.6808
2028	108.6451	139.0104	190.0391	0.4265	19.6439	5.8553	25.4992	8.2865	5.4358	13.7223	0.0000	37,907.6554	37,907.6554	8.4663	0.0000	38,085.4478
2029	108.5684	138.9126	189.1305	0.4265	19.6441	5.8555	25.4997	8.2866	5.4360	13.7226	0.0000	37,864.2872	37,864.2872	8.4606	0.0000	38,041.9606
2030	109.2237	83.2776	172.6531	0.4590	19.6443	2.4230	22.0673	8.2867	2.4091	10.6958	0.0000	42,716.0798	42,716.0798	1.6106	0.0000	42,749.9013
2031	109.1650	83.2001	171.9845	0.4590	19.6445	2.4232	22.0677	8.2867	2.4093	10.6960	0.0000	42,684.4972	42,684.4972	1.6055	0.0000	42,718.2116
2032	109.1038	83.1332	171.4022	0.4590	19.6447	2.4233	22.0680	8.2868	2.4094	10.6962	0.0000	42,658.0535	42,658.0535	1.6010	0.0000	42,691.6736
2033	109.0366	83.0606	170.9084	0.4590	19.6449	2.4233	22.0682	8.2869	2.4094	10.6963	0.0000	42,635.7384	42,635.7384	1.5971	0.0000	42,669.2784
2034	108.9809	83.0065	170.4350	0.4590	19.6450	2.4233	22.0683	8.2869	2.4094	10.6963	0.0000	42,616.7299	42,616.7299	1.5934	0.0000	42,650.1922
2035	107.3857	66.8579	168.2230	0.4590	19.6452	1.5909	21.2361	8.2870	1.5770	9.8640	0.0000	42,600.9573	42,600.9573	1.4478	0.0000	42,631.3618
Total	**2,283.2434**	**3,580.1209**	**4,271.4664**	**8.9740**	**393.7169**	**162.1017**	**555.8187**	**165.9506**	**151.4676**	**317.4182**	**0.0000**	**824,586.3525**	**824,586.3525**	**136.5323**	**0.0000**	**827,453.5317**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**40.60**	**0.00**	**32.62**	**46.82**	**0.00**	**31.52**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,155.8838	15.0708	1,306.6691	0.0693		7.2682	7.2682		7.2682	7.2682	0.0000	2,361.6990	2,361.6990	2.2543	0.0000	2,409.0384
Energy	13.8487	122.4571	80.5232	0.7554		9.5682	9.5682		9.5682	9.5682		151,077.1971	151,077.1971	2.8957	2.7698	151,996.6277
Mobile	545.5749	813.4432	4,663.7014	18.9037	1,268.2169	20.7081	1,288.9250	338.5762	19.1255	357.7017		1,317,573.1248	1,317,573.1248	33.9129		1,318,285.2952
Total	**1,715.3075**	**950.9711**	**6,050.8936**	**19.7284**	**1,268.2169**	**37.5445**	**1,305.7614**	**338.5762**	**35.9620**	**374.5382**	**0.0000**	**1,471,012.0209**	**1,471,012.0209**	**39.0628**	**2.7698**	**1,472,690.9613**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,155.8838	15.0708	1,306.6691	0.0693		7.2682	7.2682		7.2682	7.2682	0.0000	2,361.6990	2,361.6990	2.2543	0.0000	2,409.0384
Energy	10.3730	91.7002	60.1496	0.5658		7.1668	7.1668		7.1668	7.1668		113,159.4678	113,159.4678	2.1689	2.0746	113,848.1375
Mobile	490.4141	575.9581	3,350.1884	11.6326	761.0357	13.7089	774.7446	203.1739	12.6659	215.8398		810,908.8774	810,908.8774	21.6956		811,364.4839
Total	**1,656.6709**	**682.7290**	**4,717.0070**	**12.2677**	**761.0357**	**28.1439**	**789.1796**	**203.1739**	**27.1009**	**230.2748**	**0.0000**	**926,430.0443**	**926,430.0443**	**26.1187**	**2.0746**	**927,621.6598**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	3.42	28.21	22.04	37.82	39.99	25.04	39.56	39.99	24.64	38.52	0.00	37.02	37.02	33.14	25.10	37.01

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	12/31/2021	5	1566	
2	Site Preparation	Site Preparation	1/1/2016	12/31/2035	5	5217	
3	Grading	Grading	1/1/2016	12/31/2035	5	5217	
4	Building Construction	Building Construction	1/1/2016	12/31/2035	5	5217	
5	Paving	Paving	1/1/2016	12/31/2035	5	5217	
6	Architectural Coating	Architectural Coating	1/1/2016	12/31/2035	5	5217	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1859

Acres of Paving: 0

Residential Indoor: 33,832,485; Residential Outdoor: 11,277,495; Non-Residential Indoor: 34,684,676; Non-Residential Outdoor: 11,561,559 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Off-Highway Trucks	2	8.00	400	0.38
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	4	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	4	7.00	226	0.29
Building Construction	Forklifts	12	8.00	89	0.20
Building Construction	Generator Sets	4	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	12	7.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	14	35.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	36	620.00	147.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	124.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Integrate Below Market Rate Housing

Improve Pedestrian Network

Unbundle Parking Cost

Implement Trip Reduction Program

Transit Subsidy

Encourage Telecommuting and Alternative Work Schedules

Market Commute Trip Reduction Option

Provide Riade Sharing Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	490.4141	575.9581	3,350.1884	11.6326	761.0357	13.7089	774.7446	203.1739	12.6659	215.8398		810,908.8774	810,908.8774	21.6956		811,364.4839
Unmitigated	545.5749	813.4432	4,663.7014	18.9037	1,268.2169	20.7081	1,288.9250	338.5762	19.1255	357.7017		1,317,573.1248	1,317,573.1248	33.9129		1,318,285.2952

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	22,228.07	24,150.68	20474.11	49,674,973	30,855,420
Apartments Mid Rise	48,087.23	52,246.52	44292.79	107,464,654	66,751,259
Arena	2,499.75	0.00	0.00	35,025	20,595
City Park	408.63	408.63	408.63	872,365	511,495
Condo/Townhouse	27,414.40	29,785.60	25251.20	61,265,309	38,054,712
Day-Care Center	3,408.18	267.03	250.69	2,953,935	1,696,242
Elementary School	1,928.75	0.00	0.00	3,037,697	1,742,472
General Office Building	28,075.50	6,043.50	2499.00	50,840,284	29,809,222
Golf Course	3,145.12	3,575.44	3478.64	5,881,323	3,448,412
Health Club	4,544.34	2,880.06	3688.74	7,229,174	4,244,290
High School	1,482.35	502.55	205.85	3,037,123	1,741,756
Hotel	2,924.86	2,932.02	2130.10	5,343,262	3,136,388
Junior High School	1,102.40	0.00	0.00	1,770,292	1,015,330
Library	1,630.96	1,349.95	739.21	2,480,292	1,423,077
Medical Office Building	14,452.00	3,584.00	620.00	21,379,879	12,539,092
Office Park	4,168.30	598.60	277.40	7,775,632	4,559,090
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	36,499.00	42,474.50	21454.00	61,722,216	36,239,356
Research & Development	6,204.15	1,453.50	849.15	11,930,955	6,995,482
Single Family Housing	9,981.51	10,513.44	9147.11	22,185,923	13,780,702
Strip Mall	28,808.00	27,326.00	13279.50	40,622,882	23,850,602
University/College (4Yr)	23,800.00	13,000.00	0.00	47,626,180	27,352,559
Total	272,793.50	223,092.02	149,046.12	515,129,375	309,767,553

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Arena	9.50	7.30	7.30	0.00	81.00	19.00	0.66	0.28	0.6
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Golf Course	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
High School	9.50	7.30	7.30	77.80	17.20	5.00	75	19	6
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12
Library	9.50	7.30	7.30	52.00	43.00	5.00	44	44	12
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.526722	0.065482	0.174404	0.141043	0.036208	0.004860	0.010810	0.027646	0.001315	0.001390	0.006584	0.001558	0.001978

Concord - Alternative 2

Contra Costa County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2,550.00	1000sqft	29.00	2,550,000.00	0
Medical Office Building	400.00	1000sqft	55.00	400,000.00	0
Office Park	365.00	1000sqft	35.50	365,000.00	0
Research & Development	765.00	1000sqft	90.50	765,000.00	0
Day-Care Center	43.00	1000sqft	0.99	43,000.00	0
Elementary School	125.00	1000sqft	2.87	125,000.00	0
High School	115.00	1000sqft	2.64	115,000.00	0
Junior High School	80.00	1000sqft	1.84	80,000.00	0
Library	29.00	1000sqft	0.67	29,000.00	0
University/College (4Yr)	10,000.00	Student	42.19	1,837,974.68	0
Parking Lot	148.00	Acre	148.00	6,446,880.00	0
Arena	75.00	Acre	75.00	3,267,000.00	0
City Park	257.00	Acre	257.00	11,194,920.00	0
Golf Course	88.00	Hole	88.00	0.00	0
Health Club	138.00	1000sqft	3.17	138,000.00	0
Hotel	358.00	Room	19.00	519,816.00	0
Apartments Low Rise	3,373.00	Dwelling Unit	337.00	3,373,000.00	9753
Apartments Mid Rise	7,297.00	Dwelling Unit	144.00	7,297,000.00	18400
Condo/Townhouse	4,160.00	Dwelling Unit	231.00	4,160,000.00	10762
Single Family Housing	1,043.00	Dwelling Unit	174.00	1,877,400.00	2727
Regional Shopping Center	850.00	1000sqft	83.00	850,000.00	0
Strip Mall	650.00	1000sqft	38.00	650,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2035

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot acreage and population based on site-specific data.

Construction Phase - Total days updated based on schedule.

Off-road Equipment - Unit amounts revised based on site specific factors.

Off-road Equipment -

Off-road Equipment - Additonal equipment and revised unit amounts based on site specfics.

Off-road Equipment -

Trips and VMT - Worker and vendor trips for Bldg. Constr. and Arch. Coating updated based on site-specific data.

Grading - Total acres disturbed based site-specifc data.

Woodstoves - Updated based on site specific data.

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation - Mitigation based on site-specific data.

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	5,217.00
tblConstructionPhase	NumDays	155,000.00	5,217.00
tblConstructionPhase	NumDays	10,000.00	1,566.00
tblConstructionPhase	NumDays	15,500.00	5,217.00
tblConstructionPhase	NumDays	11,000.00	5,217.00

tblConstructionPhase	NumDays	6,000.00	5,217.00
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/29/2055	12/31/2035
tblConstructionPhase	PhaseEndDate	12/31/2041	12/31/2035
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2036	1/1/2016
tblConstructionPhase	PhaseStartDate	1/1/2022	1/1/2016
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	4.29	0.00
tblFireplaces	FireplaceDayYear	6.29	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	92.40	0.00
tblFireplaces	FireplaceWoodMass	215.60	0.00
tblFireplaces	NumberGas	1,855.15	0.00
tblFireplaces	NumberGas	4,013.35	0.00
tblFireplaces	NumberGas	2,288.00	0.00
tblFireplaces	NumberGas	573.65	0.00
tblFireplaces	NumberNoFireplace	1,045.63	0.00

tblFireplaces	NumberNoFireplace	2,262.07	0.00
tblFireplaces	NumberNoFireplace	1,289.60	0.00
tblFireplaces	NumberWood	472.22	0.00
tblFireplaces	NumberWood	1,021.58	0.00
tblFireplaces	NumberWood	582.40	0.00
tblFireplaces	NumberWood	469.35	0.00
tblGrading	AcresOfGrading	26,085.00	1,859.00
tblLandUse	LotAcreage	58.54	29.00
tblLandUse	LotAcreage	9.18	55.00
tblLandUse	LotAcreage	8.38	35.50
tblLandUse	LotAcreage	17.56	90.50
tblLandUse	LotAcreage	614.34	88.00
tblLandUse	LotAcreage	11.93	19.00
tblLandUse	LotAcreage	210.81	337.00
tblLandUse	LotAcreage	192.03	144.00
tblLandUse	LotAcreage	260.00	231.00
tblLandUse	LotAcreage	338.64	174.00
tblLandUse	LotAcreage	19.51	83.00
tblLandUse	LotAcreage	14.92	38.00
tblLandUse	Population	9,647.00	9,753.00
tblLandUse	Population	20,869.00	18,400.00
tblLandUse	Population	11,898.00	10,762.00
tblLandUse	Population	2,983.00	2,727.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	12.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblSequestration	NumberOfNewTrees	0.00	10,560.00
tblTripsAndVMT	VendorTripNumber	6,512.00	147.00
tblTripsAndVMT	WorkerTripNumber	22,833.00	620.00
tblTripsAndVMT	WorkerTripNumber	4,567.00	124.00
tblWaterMitigation	PercentReductionInFlowToilet	20	37
tblWoodstoves	NumberCatalytic	16.86	0.00
tblWoodstoves	NumberCatalytic	36.48	0.00
tblWoodstoves	NumberCatalytic	20.80	0.00
tblWoodstoves	NumberCatalytic	36.51	0.00
tblWoodstoves	NumberNoncatalytic	16.86	0.00
tblWoodstoves	NumberNoncatalytic	36.48	0.00
tblWoodstoves	NumberNoncatalytic	20.80	0.00
tblWoodstoves	NumberNoncatalytic	36.51	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	10.82	0.00
tblWoodstoves	WoodstoveDayYear	26.24	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	954.80	0.00
tblWoodstoves	WoodstoveWoodMass	1,355.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	134.4353	401.3680	326.2177	0.4591	33.2402	21.2524	54.4926	15.6283	19.7500	35.3783	0.0000	45,237.2431	45,237.2431	10.0544	0.0000	45,448.3848
2017	131.2143	372.2294	310.3861	0.4589	33.2403	19.4721	52.7124	15.6283	18.0904	33.7188	0.0000	44,421.6945	44,421.6945	9.9579	0.0000	44,630.8112
2018	126.0722	323.4156	287.6277	0.4589	33.2401	16.4424	49.6825	15.6283	15.2816	30.9098	0.0000	43,622.6450	43,622.6450	9.8738	0.0000	43,829.9940
2019	122.9534	293.5661	275.1385	0.4587	33.2399	14.5456	47.7856	15.6282	13.5159	29.1441	0.0000	42,842.1895	42,842.1895	9.7970	0.0000	43,047.9256
2020	120.4368	266.8248	263.8394	0.4587	33.2398	12.9426	46.1824	15.6281	12.0237	27.6518	0.0000	41,872.2097	41,872.2097	9.7357	0.0000	42,076.6583
2021	117.9959	239.8070	253.4710	0.4586	33.2401	11.3603	44.6004	15.6282	10.5515	26.1797	0.0000	41,754.7542	41,754.7542	9.6864	0.0000	41,958.1685
2022	112.9331	186.3623	216.8189	0.4173	33.0989	8.5953	41.6941	15.5908	7.9828	23.5736	0.0000	37,703.8773	37,703.8773	8.5668	0.0000	37,883.7801
2023	111.5289	170.0781	211.4128	0.4173	33.0991	7.6344	40.7335	15.5909	7.0892	22.6801	0.0000	37,612.6097	37,612.6097	8.5369	0.0000	37,791.8847
2024	110.4681	158.1815	206.6888	0.4173	33.0994	6.8855	39.9849	15.5910	6.3914	21.9824	0.0000	37,532.1451	37,532.1451	8.5112	0.0000	37,710.8810
2025	108.9448	140.1223	198.8069	0.4173	33.0996	5.8577	38.9573	15.5911	5.4380	21.0291	0.0000	37,458.9860	37,458.9860	8.4869	0.0000	37,637.2107
2026	108.8451	139.9038	197.4163	0.4173	33.0999	5.8557	38.9556	15.5912	5.4362	21.0274	0.0000	37,397.8848	37,397.8848	8.4794	0.0000	37,575.9522
2027	108.7697	139.7653	196.4110	0.4173	33.1001	5.8562	38.9564	15.5913	5.4367	21.0280	0.0000	37,344.8864	37,344.8864	8.4730	0.0000	37,522.8187
2028	108.6975	139.6351	195.5352	0.4173	33.1003	5.8563	38.9566	15.5914	5.4367	21.0281	0.0000	37,299.0975	37,299.0975	8.4671	0.0000	37,476.9071
2029	108.6187	139.5171	194.4727	0.4173	33.1006	5.8566	38.9571	15.5915	5.4370	21.0285	0.0000	37,259.3549	37,259.3549	8.4615	0.0000	37,437.0456
2030	109.2772	83.8632	177.9390	0.4498	33.1008	2.4240	35.5248	15.5916	2.4100	18.0016	0.0000	42,114.2007	42,114.2007	1.6114	0.0000	42,148.0395
2031	109.2254	83.7681	177.2914	0.4498	33.1010	2.4242	35.5251	15.5917	2.4102	18.0019	0.0000	42,085.1878	42,085.1878	1.6063	0.0000	42,118.9193

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2032	109.1692	83.6860	176.7198	0.4498	33.1012	2.4243	35.5254	15.5918	2.4103	18.0020	0.0000	42,060.9133	42,060.9133	1.6018	0.0000	42,094.5506
2033	109.1008	83.5988	176.2151	0.4498	33.1013	2.4243	35.5256	15.5918	2.4103	18.0021	0.0000	42,040.4471	42,040.4471	1.5980	0.0000	42,074.0043
2034	109.0475	83.5333	175.7507	0.4498	33.1015	2.4243	35.5257	15.5919	2.4103	18.0022	0.0000	42,023.0179	42,023.0179	1.5943	0.0000	42,056.4975
2035	107.4539	67.3764	173.5531	0.4498	33.1016	1.5919	34.6936	15.5919	1.5780	17.1699	0.0000	42,008.6150	42,008.6150	1.4487	0.0000	42,039.0367
Total	**2,285.1877**	**3,596.6021**	**4,391.7120**	**8.7901**	**662.8456**	**162.1260**	**824.9716**	**312.0494**	**151.4899**	**463.5394**	**0.0000**	**811,691.9595**	**811,691.9595**	**136.5482**	**0.0000**	**814,559.4704**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	134.4353	401.3680	326.2177	0.4591	19.7838	21.2524	41.0362	8.3234	19.7500	28.0733	0.0000	45,237.2431	45,237.2431	10.0544	0.0000	45,448.3848
2017	131.2143	372.2294	310.3861	0.4589	19.7839	19.4721	39.2560	8.3234	18.0904	26.4138	0.0000	44,421.6944	44,421.6944	9.9579	0.0000	44,630.8112
2018	126.0722	323.4156	287.6277	0.4589	19.7837	16.4424	36.2261	8.3233	15.2816	23.6049	0.0000	43,622.6449	43,622.6449	9.8738	0.0000	43,829.9940
2019	122.9534	293.5661	275.1385	0.4587	19.7835	14.5456	34.3291	8.3232	13.5159	21.8392	0.0000	42,842.1895	42,842.1895	9.7970	0.0000	43,047.9256
2020	120.4368	266.8248	263.8394	0.4587	19.7834	12.9426	32.7260	8.3232	12.0237	20.3468	0.0000	41,872.2096	41,872.2096	9.7357	0.0000	42,076.6583
2021	117.9959	239.8070	253.4710	0.4586	19.7836	11.3603	31.1440	8.3233	10.5515	18.8747	0.0000	41,754.7541	41,754.7541	9.6864	0.0000	41,958.1685
2022	112.9331	186.3623	216.8189	0.4173	19.6424	8.5953	28.2377	8.2859	7.9828	16.2687	0.0000	37,703.8773	37,703.8773	8.5668	0.0000	37,883.7801
2023	111.5289	170.0781	211.4128	0.4173	19.6427	7.6344	27.2771	8.2860	7.0892	15.3752	0.0000	37,612.6097	37,612.6097	8.5369	0.0000	37,791.8846

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	110.4681	158.1815	206.6888	0.4173	19.6429	6.8855	26.5285	8.2861	6.3914	14.6775	0.0000	37,532.1450	37,532.1450	8.5112	0.0000	37,710.8810
2025	108.9448	140.1223	198.8069	0.4173	19.6432	5.8577	25.5009	8.2862	5.4380	13.7242	0.0000	37,458.9860	37,458.9860	8.4869	0.0000	37,637.2107
2026	108.8451	139.9038	197.4163	0.4173	19.6434	5.8557	25.4991	8.2863	5.4362	13.7224	0.0000	37,397.8848	37,397.8848	8.4794	0.0000	37,575.9522
2027	108.7697	139.7653	196.4110	0.4173	19.6437	5.8562	25.4999	8.2864	5.4367	13.7231	0.0000	37,344.8864	37,344.8864	8.4730	0.0000	37,522.8187
2028	108.6975	139.6351	195.5352	0.4173	19.6439	5.8563	25.5002	8.2865	5.4367	13.7232	0.0000	37,299.0975	37,299.0975	8.4671	0.0000	37,476.9071
2029	108.6187	139.5171	194.4727	0.4173	19.6441	5.8566	25.5007	8.2866	5.4370	13.7235	0.0000	37,259.3549	37,259.3549	8.4615	0.0000	37,437.0455
2030	109.2772	83.8632	177.9390	0.4498	19.6443	2.4240	22.0683	8.2867	2.4100	10.6967	0.0000	42,114.2007	42,114.2007	1.6114	0.0000	42,148.0394
2031	109.2254	83.7681	177.2914	0.4498	19.6445	2.4242	22.0687	8.2867	2.4102	10.6969	0.0000	42,085.1877	42,085.1877	1.6063	0.0000	42,118.9193
2032	109.1692	83.6860	176.7198	0.4498	19.6447	2.4243	22.0690	8.2868	2.4103	10.6971	0.0000	42,060.9133	42,060.9133	1.6018	0.0000	42,094.5506
2033	109.1008	83.5988	176.2151	0.4498	19.6449	2.4243	22.0692	8.2869	2.4103	10.6972	0.0000	42,040.4471	42,040.4471	1.5980	0.0000	42,074.0043
2034	109.0475	83.5333	175.7507	0.4498	19.6450	2.4243	22.0693	8.2869	2.4103	10.6972	0.0000	42,023.0179	42,023.0179	1.5943	0.0000	42,056.4975
2035	107.4539	67.3764	173.5531	0.4498	19.6452	1.5919	21.2371	8.2870	1.5780	9.8650	0.0000	42,008.6150	42,008.6150	1.4487	0.0000	42,039.0367
Total	**2,285.1877**	**3,596.6021**	**4,391.7120**	**8.7901**	**393.7169**	**162.1260**	**555.8430**	**165.9506**	**151.4899**	**317.4405**	**0.0000**	**811,691.9590**	**811,691.9590**	**136.5482**	**0.0000**	**814,559.4698**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**40.60**	**0.00**	**32.62**	**46.82**	**0.00**	**31.52**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,155.8838	15.0708	1,306.6691	0.0693		7.2682	7.2682		7.2682	7.2682	0.0000	2,361.6990	2,361.6990	2.2543	0.0000	2,409.0384
Energy	13.8487	122.4571	80.5232	0.7554		9.5682	9.5682		9.5682	9.5682		151,077.1971	151,077.1971	2.8957	2.7698	151,996.6277
Mobile	538.3906	901.8280	5,481.9480	17.4891	1,268.2169	20.7921	1,289.0089	338.5762	19.2028	357.7790		1,225,431.4629	1,225,431.4629	33.9936		1,226,145.3290
Total	**1,708.1231**	**1,039.3559**	**6,869.1403**	**18.3138**	**1,268.2169**	**37.6285**	**1,305.8454**	**338.5762**	**36.0392**	**374.6154**	**0.0000**	**1,378,870.3590**	**1,378,870.3590**	**39.1435**	**2.7698**	**1,380,550.9951**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,155.8838	15.0708	1,306.6691	0.0693		7.2682	7.2682		7.2682	7.2682	0.0000	2,361.6990	2,361.6990	2.2543	0.0000	2,409.0384
Energy	10.3730	91.7002	60.1496	0.5658		7.1668	7.1668		7.1668	7.1668		113,159.4678	113,159.4678	2.1689	2.0746	113,848.1375
Mobile	483.9055	635.2913	4,333.2184	10.7831	761.0357	13.7929	774.8286	203.1739	12.7432	215.9171		754,812.0073	754,812.0073	21.7763		755,269.3095
Total	**1,650.1623**	**742.0623**	**5,700.0370**	**11.4182**	**761.0357**	**28.2279**	**789.2636**	**203.1739**	**27.1782**	**230.3521**	**0.0000**	**870,333.1742**	**870,333.1742**	**26.1994**	**2.0746**	**871,526.4854**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	3.39	28.60	17.02	37.65	39.99	24.98	39.56	39.99	24.59	38.51	0.00	36.88	36.88	33.07	25.10	36.87

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	12/31/2021	5	1566	
2	Site Preparation	Site Preparation	1/1/2016	12/31/2035	5	5217	
3	Grading	Grading	1/1/2016	12/31/2035	5	5217	
4	Building Construction	Building Construction	1/1/2016	12/31/2035	5	5217	
5	Paving	Paving	1/1/2016	12/31/2035	5	5217	
6	Architectural Coating	Architectural Coating	1/1/2016	12/31/2035	5	5217	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1859

Acres of Paving: 0

Residential Indoor: 33,832,485; Residential Outdoor: 11,277,495; Non-Residential Indoor: 34,684,676; Non-Residential Outdoor: 11,561,559 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Off-Highway Trucks	2	8.00	400	0.38
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	4	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	4	7.00	226	0.29
Building Construction	Forklifts	12	8.00	89	0.20
Building Construction	Generator Sets	4	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	12	7.00	97	0.37
Building Construction	Welders	4	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	14	35.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	36	620.00	147.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	124.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Integrate Below Market Rate Housing

Improve Pedestrian Network

Unbundle Parking Cost

Implement Trip Reduction Program

Transit Subsidy

Encourage Telecommuting and Alternative Work Schedules

Market Commute Trip Reduction Option

Provide Riade Sharing Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	483.9055	635.2913	4,333.2184	10.7831	761.0357	13.7929	774.8286	203.1739	12.7432	215.9171		754,812.0073	754,812.0073	21.7763		755,269.3095
Unmitigated	538.3906	901.8280	5,481.9480	17.4891	1,268.2169	20.7921	1,289.0089	338.5762	19.2028	357.7790		1,225,431.4629	1,225,431.4629	33.9936		1,226,145.3290

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	22,228.07	24,150.68	20474.11	49,674,973	30,855,420
Apartments Mid Rise	48,087.23	52,246.52	44292.79	107,464,654	66,751,259
Arena	2,499.75	0.00	0.00	35,025	20,595
City Park	408.63	408.63	408.63	872,365	511,495
Condo/Townhouse	27,414.40	29,785.60	25251.20	61,265,309	38,054,712
Day-Care Center	3,408.18	267.03	250.69	2,953,935	1,696,242
Elementary School	1,928.75	0.00	0.00	3,037,697	1,742,472
General Office Building	28,075.50	6,043.50	2499.00	50,840,284	29,809,222
Golf Course	3,145.12	3,575.44	3478.64	5,881,323	3,448,412
Health Club	4,544.34	2,880.06	3688.74	7,229,174	4,244,290
High School	1,482.35	502.55	205.85	3,037,123	1,741,756
Hotel	2,924.86	2,932.02	2130.10	5,343,262	3,136,388
Junior High School	1,102.40	0.00	0.00	1,770,292	1,015,330
Library	1,630.96	1,349.95	739.21	2,480,292	1,423,077
Medical Office Building	14,452.00	3,584.00	620.00	21,379,879	12,539,092
Office Park	4,168.30	598.60	277.40	7,775,632	4,559,090
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	36,499.00	42,474.50	21454.00	61,722,216	36,239,356
Research & Development	6,204.15	1,453.50	849.15	11,930,955	6,995,482
Single Family Housing	9,981.51	10,513.44	9147.11	22,185,923	13,780,702
Strip Mall	28,808.00	27,326.00	13279.50	40,622,882	23,850,602
University/College (4Yr)	23,800.00	13,000.00	0.00	47,626,180	27,352,559
Total	272,793.50	223,092.02	149,046.12	515,129,375	309,767,553

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Arena	9.50	7.30	7.30	0.00	81.00	19.00	0.66	0.28	0.6
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Golf Course	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
High School	9.50	7.30	7.30	77.80	17.20	5.00	75	19	6
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12
Library	9.50	7.30	7.30	52.00	43.00	5.00	44	44	12
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15
University/College (4Yr)	9.50	7.30	7.30	6.40	88.60	5.00	91	9	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.526722	0.065482	0.174404	0.141043	0.036208	0.004860	0.010810	0.027646	0.001315	0.001390	0.006584	0.001558	0.001978

Concord - Alternative 2

Contra Costa County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

CalEEMod Version: CalEEMod.2013.2.2

Date: 8/20/2014 12:40 PM

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	4	No Change	0.00
Excavators	Diesel	No Change	0	5	No Change	0.00
Forklifts	Diesel	No Change	0	12	No Change	0.00
Generator Sets	Diesel	No Change	0	4	No Change	0.00
Graders	Diesel	No Change	0	2	No Change	0.00
Off-Highway Trucks	Diesel	No Change	0	2	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Plate Compactors	Diesel	No Change	0	1	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	6	No Change	0.00
Scrapers	Diesel	No Change	0	4	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	18	No Change	0.00
Welders	Diesel	No Change	0	4	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	5.12530E-001	3.43094E+000	4.74225E+000	7.75000E-003	1.87380E-001	1.87380E-001	0.00000E+000	6.66016E+002	6.66016E+002	4.13700E-002	0.00000E+000	6.66885E+002
Concrete/Industrial Saws	3.92960E-001	2.96490E+000	2.91159E+000	4.90000E-003	1.98510E-001	1.98510E-001	0.00000E+000	4.20985E+002	4.20985E+002	3.18500E-002	0.00000E+000	4.21654E+002
Cranes	3.35958E+000	3.21382E+001	1.65650E+001	5.50600E-002	1.35233E+000	1.24989E+000	0.00000E+000	4.84473E+003	4.84473E+003	1.08167E+000	0.00000E+000	4.86744E+003
Excavators	1.90796E+000	1.61719E+001	2.59029E+001	4.19800E-002	7.84620E-001	7.24790E-001	0.00000E+000	3.72518E+003	3.72518E+003	9.31730E-001	0.00000E+000	3.74475E+003
Forklifts	3.63820E+000	2.99870E+001	3.68179E+001	5.11600E-002	1.82793E+000	1.68645E+000	0.00000E+000	4.50206E+003	4.50206E+003	1.01810E+000	0.00000E+000	4.52344E+003
Generator Sets	3.29434E+000	2.84931E+001	3.83708E+001	6.86300E-002	1.33432E+000	1.33432E+000	0.00000E+000	5.89737E+003	5.89737E+003	2.64610E-001	0.00000E+000	5.90293E+003
Graders	2.67092E+000	2.23924E+001	2.28846E+001	3.45100E-002	1.23213E+000	1.13912E+000	0.00000E+000	3.03808E+003	3.03808E+003	6.82140E-001	0.00000E+000	3.05240E+003
Off-Highway Trucks	3.10490E+000	2.08260E+001	1.79285E+001	6.90100E-002	7.62580E-001	7.07060E-001	0.00000E+000	6.43830E+003	6.43830E+003	1.43600E+000	0.00000E+000	6.46845E+003
Pavers	1.26545E+000	1.06295E+001	1.50230E+001	2.52000E-002	5.18900E-001	4.85360E-001	0.00000E+000	2.21652E+003	2.21652E+003	5.03320E-001	0.00000E+000	2.22709E+003
Paving Equipment	1.05551E+000	8.59379E+000	1.34410E+001	2.24100E-002	4.27070E-001	3.99620E-001	0.00000E+000	1.97041E+003	1.97041E+003	4.45760E-001	0.00000E+000	1.97977E+003
Plate Compactors	1.04610E-001	6.55520E-001	5.49020E-001	1.27000E-003	2.54800E-002	2.54800E-002	0.00000E+000	8.15917E+001	8.15917E+001	8.47000E-003	0.00000E+000	8.17696E+001
Rollers	9.44300E-001	8.59262E+000	9.94314E+000	1.46100E-002	4.78890E-001	4.44660E-001	0.00000E+000	1.28571E+003	1.28571E+003	2.92290E-001	0.00000E+000	1.29185E+003
Rubber Tired Dozers	9.74448E+000	9.11444E+001	7.35997E+001	1.07050E-001	4.11129E+000	3.80964E+000	0.00000E+000	9.95632E+003	9.95632E+003	2.38856E+000	0.00000E+000	1.00065E+004
Scrapers	8.88360E+000	8.17625E+001	6.16559E+001	1.56760E-001	3.21125E+000	2.98305E+000	0.00000E+000	1.46298E+004	1.46298E+004	3.29013E+000	0.00000E+000	1.46989E+004
Tractors/Loaders/Backhoes	7.95762E+000	7.03796E+001	9.87967E+001	1.42850E-001	3.60935E+000	3.33913E+000	0.00000E+000	1.25670E+004	1.25670E+004	2.84247E+000	0.00000E+000	1.26267E+004
Welders	2.80072E+000	1.46218E+001	1.76991E+001	2.66700E-002	5.76530E-001	5.76530E-001	0.00000E+000	1.96389E+003	1.96389E+003	2.27560E-001	0.00000E+000	1.96867E+003

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	5.12530E-001	3.43093E+000	4.74225E+000	7.75000E-003	1.87380E-001	1.87380E-001	0.00000E+000	6.66016E+002	6.66016E+002	4.13700E-002	0.00000E+000	6.66884E+002
Concrete/Industrial Saws	3.92960E-001	2.96489E+000	2.91158E+000	4.90000E-003	1.98510E-001	1.98510E-001	0.00000E+000	4.20985E+002	4.20985E+002	3.18500E-002	0.00000E+000	4.21653E+002
Cranes	3.35958E+000	3.21382E+001	1.65650E+001	5.50600E-002	1.35233E+000	1.24988E+000	0.00000E+000	4.84472E+003	4.84472E+003	1.08167E+000	0.00000E+000	4.86743E+003
Excavators	1.90796E+000	1.61719E+001	2.59029E+001	4.19800E-002	7.84620E-001	7.24790E-001	0.00000E+000	3.72518E+003	3.72518E+003	9.31730E-001	0.00000E+000	3.74475E+003
Forklifts	3.63820E+000	2.99869E+001	3.68178E+001	5.11600E-002	1.82793E+000	1.68645E+000	0.00000E+000	4.50205E+003	4.50205E+003	1.01810E+000	0.00000E+000	4.52343E+003
Generator Sets	3.29434E+000	2.84931E+001	3.83707E+001	6.86300E-002	1.33432E+000	1.33432E+000	0.00000E+000	5.89737E+003	5.89737E+003	2.64610E-001	0.00000E+000	5.90292E+003
Graders	2.67092E+000	2.23924E+001	2.28846E+001	3.45100E-002	1.23213E+000	1.13912E+000	0.00000E+000	3.03808E+003	3.03808E+003	6.82140E-001	0.00000E+000	3.05240E+003
Off-Highway Trucks	3.10490E+000	2.08260E+001	1.79284E+001	6.90100E-002	7.62580E-001	7.07060E-001	0.00000E+000	6.43829E+003	6.43829E+003	1.43599E+000	0.00000E+000	6.46845E+003
Pavers	1.26545E+000	1.06295E+001	1.50230E+001	2.52000E-002	5.18900E-001	4.85360E-001	0.00000E+000	2.21652E+003	2.21652E+003	5.03320E-001	0.00000E+000	2.22709E+003
Paving Equipment	1.05551E+000	8.59378E+000	1.34410E+001	2.24100E-002	4.27070E-001	3.99620E-001	0.00000E+000	1.97041E+003	1.97041E+003	4.45760E-001	0.00000E+000	1.97977E+003
Plate Compactors	1.04610E-001	6.55520E-001	5.49020E-001	1.27000E-003	2.54800E-002	2.54800E-002	0.00000E+000	8.15916E+001	8.15916E+001	8.47000E-003	0.00000E+000	8.17695E+001
Rollers	9.44300E-001	8.59261E+000	9.94313E+000	1.46100E-002	4.78890E-001	4.44660E-001	0.00000E+000	1.28571E+003	1.28571E+003	2.92290E-001	0.00000E+000	1.29185E+003
Rubber Tired Dozers	9.74447E+000	9.11443E+001	7.35996E+001	1.07050E-001	4.11129E+000	3.80964E+000	0.00000E+000	9.95631E+003	9.95631E+003	2.38856E+000	0.00000E+000	1.00065E+004
Scrapers	8.88359E+000	8.17625E+001	6.16558E+001	1.56750E-001	3.21125E+000	2.98304E+000	0.00000E+000	1.46298E+004	1.46298E+004	3.29012E+000	0.00000E+000	1.46989E+004
Tractors/Loaders/Backhoes	7.95761E+000	7.03795E+001	9.87965E+001	1.42850E-001	3.60934E+000	3.33912E+000	0.00000E+000	1.25670E+004	1.25670E+004	2.84246E+000	0.00000E+000	1.26267E+004
Welders	2.80072E+000	1.46218E+001	1.76991E+001	2.66700E-002	5.76530E-001	5.76530E-001	0.00000E+000	1.96389E+003	1.96389E+003	2.27560E-001	0.00000E+000	1.96867E+003

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	2.91465E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18616E-006	1.18616E-006	0.00000E+000	0.00000E+000	1.18461E-006
Concrete/Industrial Saws	0.00000E+000	3.37280E-006	3.43455E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18769E-006	1.18769E-006	0.00000E+000	0.00000E+000	1.18581E-006
Cranes	0.00000E+000	9.33468E-007	1.20737E-006	0.00000E+000	0.00000E+000	8.00070E-006	0.00000E+000	1.18892E-006	1.18892E-006	0.00000E+000	0.00000E+000	1.18748E-006
Excavators	0.00000E+000	1.23671E-006	1.15817E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18920E-006	1.18920E-006	0.00000E+000	0.00000E+000	1.19100E-006
Forklifts	0.00000E+000	1.33391E-006	1.08643E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19057E-006	1.19057E-006	0.00000E+000	0.00000E+000	1.18936E-006
Generator Sets	0.00000E+000	1.05289E-006	1.04246E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18866E-006	1.18866E-006	0.00000E+000	0.00000E+000	1.18924E-006
Graders	0.00000E+000	1.33974E-006	8.73951E-007	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18825E-006	1.18825E-006	0.00000E+000	0.00000E+000	1.18923E-006
Off-Highway Trucks	0.00000E+000	9.60339E-007	1.11554E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18976E-006	1.18976E-006	6.96379E-006	0.00000E+000	1.18885E-006
Pavers	0.00000E+000	1.88156E-006	1.33129E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18655E-006	1.18655E-006	0.00000E+000	0.00000E+000	1.18989E-006
Paving Equipment	0.00000E+000	1.16363E-006	1.48798E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19264E-006	1.19264E-006	0.00000E+000	0.00000E+000	1.19205E-006
Plate Compactors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.22561E-006	1.22561E-006	0.00000E+000	0.00000E+000	1.22295E-006
Rollers	0.00000E+000	1.16379E-006	1.00572E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18222E-006	1.18222E-006	0.00000E+000	0.00000E+000	1.19209E-006
Rubber Tired Dozers	1.02622E-006	1.20688E-006	1.22283E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18919E-006	1.18919E-006	0.00000E+000	0.00000E+000	1.18923E-006
Scrapers	1.12567E-006	1.10075E-006	1.29752E-006	6.37918E-005	0.00000E+000	3.35227E-006	0.00000E+000	1.18935E-006	1.18935E-006	3.03939E-006	0.00000E+000	1.18921E-006
Tractors/Loaders/Backhoes	1.25666E-006	1.27878E-006	1.21462E-006	0.00000E+000	2.77058E-006	2.99479E-006	0.00000E+000	1.18883E-006	1.18883E-006	3.51807E-006	0.00000E+000	1.18955E-006
Welders	0.00000E+000	1.36782E-006	1.13000E-006	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18642E-006	1.18642E-006	0.00000E+000	0.00000E+000	1.18862E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
Yes	Soil Stabilizer for unpaved Roads	PM10 Reduction	55.00	PM2.5 Reduction	55.00		

No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	2.94	0.78	2.94	0.78	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	17.20	4.62	17.20	4.62	0.00	0.00
Demolition	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	Roads	0.11	0.03	0.11	0.03	0.00	0.00
Grading	Fugitive Dust	333.89	174.82	150.25	78.67	0.55	0.55
Grading	Roads	0.83	0.22	0.83	0.22	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.36	0.09	0.36	0.09	0.00	0.00
Site Preparation	Fugitive Dust	942.52	518.08	424.13	233.14	0.55	0.55
Site Preparation	Roads	0.43	0.11	0.43	0.11	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	89.65	89.65	89.65	89.65	89.65
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	10.60	29.29	23.35	38.23	33.63	33.61	0.00	38.26	38.26	35.87	0.00	38.26
Natural Gas	25.10	25.12	25.30	25.09	25.10	25.10	0.00	25.10	25.10	25.09	25.10	25.10
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.81	20.29	0.08	0.69	15.38
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
Yes	Land Use	Increase Density	0.09	17.90	0.00	
Yes	Land Use	Increase Diversity	0.30	0.73		
Yes	Land Use	Improve Walkability Design	0.60	975.00		
No	Land Use	Improve Destination Accessibility	0.00	0.00		
No	Land Use	Increase Transit Accessibility	0.25	0.00		
Yes	Land Use	Integrate Below Market Rate Housing	0.01	15.00		
	Land Use	Land Use SubTotal	0.31			

Yes	Neighborhood Enhancements	Improve Pedestrian Network	1.00	Project Site		
No	Neighborhood Enhancements	Provide Traffic Calming Measures	0.00			
No	Neighborhood Enhancements	Implement NEV Network	0.01			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.01			
Yes	Parking Policy Pricing	Limit Parking Supply	0.00			
Yes	Parking Policy Pricing	Unbundle Parking Costs	0.03	25.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.03			
No	Transit Improvements	Provide BRT System	0.00	0.00		
No	Transit Improvements	Expand Transit Network	0.00	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		0.00	
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.33			
Yes	Commute	Implement Trip Reduction Program	0.00	100.00	Voluntary	
Yes	Commute	Transit Subsidy	0.00	100.00	$0.75	
No	Commute	Implement Employee Parking "Cash Out"	0.00	100.00		
No	Commute	Workplace Parking Charge	0.00			
Yes	Commute	Encourage Telecommuting and Alternative Work Schedules	11.00	5.50	0.00	5.50
Yes	Commute	Market Commute Trip Reduction Option	0.04	100.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
Yes	Commute	Provide Ride Sharing Program	0.00	100.00		
	Commute	Commute Subtotal	0.15			

No	School Trip	Implement School Bus Program	0.00	0.00		
		Total VMT Reduction	0.43			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	100.00
No	Use Low VOC Paint (Residential Exterior)	150.00
No	Use Low VOC Paint (Non-residential Interior)	100.00
No	Use Low VOC Paint (Non-residential Exterior)	150.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	30.00	
No	Install High Efficiency Lighting		
Yes	On-site Renewable	176,651,000.00	

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00

DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Apply Water Conservation on Strategy	0.00	46.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	37.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	61.00

Appendix D Biological Resources Supporting Information

This page intentionally left blank.

Appendix D-1 Special Status Plant Species Considered for Potential Occurrence on the Former NWS Concord

Scientific Name	Common Name	Federal/State Listing Status	Habitat Description and Elevation	Potential to Occur
Amsinckia grandiflora	large-flowered fiddleneck	FE/SE	Found in cismontane woodland, valley and foothill grassland from 270-550m	**Unlikely.** Suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).
Arctostaphylos pallida	pallid manzanita	FT/SE	Found in broad-leaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub from 186-485m.	Absent. No suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).
Chloropyron molle ssp. *molle* (formerly *Cordylanthus mollis ssp. mollis* -)	soft bird's-beak	FE/SR	Occurs in coastal marsh from 1-10m.	Absent. No suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).
Chorizanthe robusta var. *robusta*	robust spineflower	FE/None	Found in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub from 3-300m.	Absent. No suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).
Clarkia franciscana	Presidio clarkia	FE/SE	Occurs in coastal scrub and valley and foothill grassland from 25-335m.	Absent. No suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).
Cordylanthus nidularius	Mt. Diablo bird's-beak	None/SR	Found in chaparral from 600-800m.	Unlikely. Suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).

Appendix D-1 Special Status Plant Species Considered for Potential Occurrence on the Former NWS Concord

Scientific Name	Common Name	Federal/State Listing Status	Habitat Description and Elevation	Potential to Occur
Erysimum capitatum var. angustatum	Contra Costa wallflower	FE/SE	Occurs on inland dunes from 3-20m. Known only from the Antioch Dunes.	Absent. No suitable habitat present. Not identified during special status plant surveys.
Holocarpha macradenia	Santa Cruz tarplant	FT/SE	Found in coastal prairie and valley and foothill grassland from 10-260m.	Unlikely. Suitable habitat present. Not identified during special status plant surveys (City of Concord 2012).
Lasthenia conjugens	Contra Costa goldfields	FE/None	Found in open, grassy areas in valley-foothill grasslands, vernal pools, and cismontane woodland from 1-445m.	Unlikely. Suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).
Lilaeopsis masonii	Mason's lilaeopsis	None/SR	Occurs in freshwater and brackish marshes and riparian scrub from 0-10m.	Absent. No suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).
Neostapfia colusana	Colusa grass	FT/SE	Occurs in vernal pools in valley grassland, freshwater wetlands, and wetland-riparian communities. 5-215m.	Absent. No suitable habitat present. Not identified during special status plant and vernal pool surveys (City of Concord 2010 and 2012).
Oenothera deltoides ssp. howellii	Antioch Dunes evening-primrose	FE/SE	Occurs on inland dunes from 0-30m.	Absent. No suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).

Appendix D-1 Special Status Plant Species Considered for Potential Occurrence on the Former NWS Concord

Scientific Name	Common Name	Federal/State Listing Status	Habitat Description and Elevation	Potential to Occur
Plagiobothrys diffusus	San Francisco popcornflower	None/SE	Found in coastal prairie and valley and foothill grassland from 60-360m.	Unlikely. Suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).
Sanicula maritima	adobe sanicle	None/SR	Found in chaparral, coastal prairie, meadows and seeps, valley and foothill grassland on clay soils and serpentinite from 30-240m.	Unlikely. Suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).
Sanicula saxatilis	rock sanicle	None/SR	Occurs in broad-leafed upland forest, chaparral, and valley and foothill grassland on rocky soils from 620-1,175m.	Unlikely. Suitable habitat present. Not identified during special status plant surveys (City of Concord 2010 and 2012).
Sidalcea keckii	Keck's checkerbloom	FE/None	Found in serpentine soils in valley grassland and foothill woodlands from 80-700m.	Absent. No suitable habitat present. Serpentine soils are not present within the former NWS Concord. Not identified during special status plant surveys.

Key:
FE = federal endangered
FT = federal threatened
SR = state rare

This page intentionally left blank.

Appendix D-2 Special Status Wildlife with Potential to Occur on the Former NWS Concord

Species	Scientific Name	Federal/State Listing Status	Habitat	Potential to Occur
Invertebrates				
Bay checkerspot bufferfly	*Euphydryas editha bayensis*	FT/None	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is primary host plant.	**Absent.** No suitable habitat present.
California freshwater shrimp	*Syncaris pacifica*	FE/SE	Found in perennial freshwater streams in Marin, Sonoma, and Napa counties.	**Absent.** Outside known range for this species.
Callippe silverspot butterfly	*Speyeria callippe callippe*	FE/None	Restricted to the northern coastal scrub of the San Francisco peninsula.	**Absent.** Outside known range for this species.
Conservancy fairy shrimp	*Branchinecta conservatio*	FE/None	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools.	**Absent.** Outside known range for this species.
Delta green ground beetle	*Elaphrus viridis*	FT/None	Found along margins of vernal pools in Solano County.	**Absent.** Outside known range for this species.
Lange's metalmark butterfly	*Apodemia mormo langei*	FE/None	Inhabits stabilized dunes along the San Joaquin River. Endemic to Antioch Dunes, Contra Costa County.	**Absent.** Outside known range for this species.
Longhorn fairy shrimp	*Branchinecta longiantenna*	FE/None	Found in grass-bottomed pools and clear-water sandstone vernal pools.	**Absent.** Not detected in protocol-level surveys.
San Bruno elfin butterfly	*Callophrys mossii bayensis*	FE/None	Found in coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain in San Mateo County.	**Unlikely.** No CNDDB occurrences within 5 miles of the former NWS Concord. Unknown if host plants are present.

Appendix D-2 Special Status Wildlife with Potential to Occur on the Former NWS Concord

Species	Scientific Name	Federal/State Listing Status	Habitat	Potential to Occur
Valley elderberry longhorn beetle	*Desmocercus californicus dimorphus*	FT/None	Found only on elderberry bushes in moist valley oak woodlands along the margins of rivers and streams in the lower Sacramento and lower San Joaquin River Valleys.	**Unlikely.** Outside known range for this species.
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT/None	Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**Absent.** Not detected in protocol-level surveys.
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE/None	Found in grass or mud-bottomed swales in grasslands on alluvial soils underlain by hardpan.	**Absent.** Not detected in protocol-level surveys.
Fish				
Central California coast coho salmon	*Oncorhynchus kisutch*	FE/SE	Found in cool freshwater streams with adequate pool and riffle depths, moderate velocities, and clean spawning gravels. Prefer short, lower sections of larger coastal drainages.	**Absent.** No suitable habitat present.
Central California coast steelhead	*Oncorynchus mykiss*	FT/None	Found in cool freshwater streams with adequate pool and riffle depths, moderate velocities, and clean spawning gravels.	**Absent.** No suitable habitat present.
Central Valley steelhead	*Oncorynchus mykiss*	FT/None	Found in cool freshwater streams with adequate pool and riffle depths, moderate velocities, and clean spawning gravels.	**Absent.** No suitable habitat present.

Appendix D-2 Special Status Wildlife with Potential to Occur on the Former NWS Concord

Species	Scientific Name	Federal/State Listing Status	Habitat	Potential to Occur
Central Valley spring-run chinook salmon, winter-run chinook salmon (Sacramento River)	*Oncorhynchus tshawytscha*	FT/ST	Found in cool freshwater streams in the Sacramento Valley with adequate pool and riffle depths, moderate velocities, and clean spawning gravels.	**Absent.** No suitable habitat present.
Sacramento River winter-run Chinook salmon	*Oncorhynchus tshawytscha*	FE/SE	Found in brackish, shallow lagoons with slow-moving water and salinities between 0 and 10 parts per thousand.	**Absent.** No suitable habitat present.
Delta smelt	*Hypomesus transpacificus*	FT/SE	Found in euryhaline (mixed fresh and salt water) zone within the delta where salinity is approximately 2 parts per thousand.	**Absent.** No suitable habitat present.
Green sturgeon	*Acipenser medirostris*	FT/None	Found in large rivers with swift, deep water and clean sand and cobble substrates.	**Absent.** No suitable habitat present.
Longfin smelt	*Spirinchus thaleichtys*	None/ST	Spawn in fresh water in the upper San Francisco Bay and Sacramento-San Joaquin Delta.	**Absent.** No suitable habitat present.
Tidewater goby	*Eucyclogobius newberryi*	FE/None	Found in cool freshwater streams in the Sacramento River and tributaries with adequate pool and riffle depths, moderate velocities, and clean spawning gravels.	**Absent.** No suitable habitat present.

Appendix D-2 Special Status Wildlife with Potential to Occur on the Former NWS Concord

Species	Scientific Name	Federal/State Listing Status	Habitat	Potential to Occur
Amphibians				
California red-legged frog	*Rana draytonii*	FT/None	This large, aquatic frog requires deep seasonal pools with riparian vegetation for breeding. Individuals are known to move long distances between water bodies. Lack of access to upland refugia, such as small mammal burrows, is considered a limiting factor for this species.	**Present**. Individuals were observed in Cistern Pond, upper Cistern Pond, and several locations along Mt. Diablo Creek.
California tiger salamander	*Ambystoma californiense*	FT/ST	Occurs primarily in grassland habitats. Requires seasonal pools, especially those that retain water until May or June, for breeding and egg-laying. This species spends most of its life underground in small mammal burrows.	**Present**. Individuals were observed in nine seasonal wetlands and ponds within the southeastern portion of the former NWS Concord, according to surveys conducted in 1999. No suitable habitat is present northwest of Willow Pass Road.
Reptiles				
Alameda whipsnake	*Masticophis lateralis euryxanthus*	FT/ST	Found in coastal scrub and chapparal communities but will forage in grasslands and open woodlands. Requires access to rock crevices or small mammal burrows for refuge.	**Unlikely**. No suitable breeding habitat exists within the former NWS Concord. However, small areas of suitable foraging habitat occur southeast and northwest of Bailey Road.
Giant garter snake	*Thamnophis gigas*	FT/ST	Highly aquatic snake found in freshwater marsh and low-gradient streams in the San Joaquin and Sacramento River Delta but has adapted to drainage canals and irrigation ditches.	**Unlikely.** Wetlands and drainages within the former NWS Concord are not extensive enough to provide suitable habitat for this species.

Appendix D-2 Special Status Wildlife with Potential to Occur on the Former NWS Concord

Species	Scientific Name	Federal/State Listing Status	Habitat	Potential to Occur
Birds				
Bald eagle	*Haliaeetus leucocephalus*	BGEPA/SE	Large, distinctive eagle. Nests in mature and old-growth forest adjacent to large bodies of water.	**Unlikely**. A single juvenile bald eagle was observed during surveys in 1982. Individuals may forage over the former NWS Concord, but this species is not expected to breed onsite.
California black rail	*Laterallus jamaicensis coturniculus*	None/ST	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depth of about 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat.	**Unlikely.** No suitable habitat exists within the former NWS Concord.
California clapper rail	*Rallus longirostris obsoletus*	FE/SE	Occurs only within the tidal salt and brackish marshes around San Francisco Bay.	**Absent.** No suitable habitat exists within the former NWS Concord.
California least tern	*Sternula antillarum browni* (formerly known as *Sterna antillarum browni*)	FE/SE	Nests along the coast from San Francisco Bay south to northern Baja, California. Colonial breeder on bare or sparsely vegetated, flat substrates such as sand beaches, alkali flats, landfills, or paved areas.	**Absent.** No suitable breeding habitat exists within the former NWS Concord.
Golden eagle	*Aquila chrysaetos*	BGEPA/None	Found in rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons and large trees in open areas provide nesting habitat.	**Present**. A breeding pair nests annually along the eastern boundary of the former NWS Concord.

Appendix D-2 Special Status Wildlife with Potential to Occur on the Former NWS Concord

Species	Scientific Name	Federal/State Listing Status	Habitat	Potential to Occur
Peregrine falcon	*Falco peregrinus anatum*	None/SE	A fairly rare perennial visitor throughout cismontane California. Nests on rocky outcrops and cliffs, or on tall buildings in urban areas. Foraging habitat typically includes a variety of coastal and interior wetland communities, as well as open areas such as airports and farmland.	**Unlikely**. The CRP FEIR lists this species as present within the proposed action area. However, while this species may forage occasionally within the former NWS Concord, no suitable nesting habitat for this species is onsite.
Swainson's hawk	*Buteo swainsoni*	None/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, grasslands, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields with abundant rodents.	**Unlikely**. Suitable habitat exists within the former NWS Concord, but this species is likely only to forage and not breed.
Western snowy plover	*Charadrius alexandrinus nivosus*	FT/None	Nests on sandy beaches and on the shores of salt ponds and alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	**Unlikely**. No suitable breeding habitat exists within the former NWS Concord.
Mammals				
Salt marsh harvest mouse	*Reithrodontomys raviventris*	FE/SE	Found only in tidal marsh of San Francisco Bay and its tributaries. Pickleweed is a primary habitat component.	**Unlikely**. No suitable habitat exists within the former NWS Concord.

Appendix D-2 Special Status Wildlife with Potential to Occur on the Former NWS Concord

Species	Scientific Name	Federal/State Listing Status	Habitat	Potential to Occur
San Joaquin kit fox	*Vulpes macrotis mutica*	FE/SE	Found in annual grassland with scattered shrubs. Needs looselytextured, friable soil for burrowing and an adequate prey base of small mammals.	**Absent.** While suitable habitat is present within the former NWS Concord, the species has not been observed during extensive survey efforts.

Sources: CNDDB 2014 and USFWS 2014.

Status explanations:
Federal

FE = Listed as endangered under the federal Endangered Species Act.
FT = Listed as threatened under the federal Endangered Species Act.
BGEPA = Protected under the Bald and Golden Eagle Protection Act.

State
SE = Listed as endangered under the California Endangered Species Act.
ST = Listed as threatened under the California Endangered Species Act.
SC = California Department of Fish and Wildlife species of special concern.

Potential to Occur:

Likely = Per CNDDB and/or professional expertise specific to the former NWS Concord, individuals of the species are likely to colonize or use the area because data show that individuals of the species are known to occur within 5 miles of the former NWS Concord and ideal habitat is within the former NWS Concord.

Unlikely = Occurrence of this species has been identified in the CNDDB records, but either the recorded observations are more than 10 years old, key habitat requirements are absent, or the habitat on the former NWS Concord is so degraded, small, or isolated that it would be very unlikely for individuals of the species to colonize or use the area.

This page intentionally left blank.

Appendix E Hazards and Hazardous Substances Supporting Information

This page intentionally left blank.

Tables

This page intentionally left blank.

Table E-1 Summary of Solid Waste Management Unit Sites

Site Number	Site Name	Program Activity: Key Activity	Program Activity: Date Completed	Description and Current Status	Constituents of Concern
SWMUs Recommended for No Further Action in 1992					
• SWMU 3 • SWMU 4 • SWMU 6 • SWMU 8 • SWMU 9 • SWMU 10 • SWMU 11	• Building IA-8, Explosives Ordnance Disposal Detachment • Building IA-10, Print Shop • Building IA-15, Automotive Vehicle Maintenance Division • Building IA-20, Chemical Laboratory • Building IA-21, Material Test Laboratory • Building IA-21A, Evaluation Laboratory • Building IA-22, Photography Laboratory	RFA	1992	Various site descriptions; see historical records. 1992 RFA report recommended NFA, and no additional investigations were conducted under RCRA. Some sites received additional regulatory action under RCRA; e.g., for SWMU 11, the RCRA-permitted photographic silver recovery unit received DTSC closure in 1999. Some sites were later investigated under other programs; e.g., SWMU 8, Building IA-20 Chemical Laboratory, was later investigated as part of IRP Site 27 (see Table 3.8-1). SWMU 32, UST 5AT, was later investigated under the UST Program (see Table E-2).	Depending on the site, common constituents of concern included oil, petroleum hydrocarbons, metals, VOCs, chemicals from paints, solvents, acids, bases, coolant, and photographic chemicals
• SWMU 19 • SWMU 21 • SWMU 27 • SWMU 28 • SWMU 29 • SWMU 31 • SWMU 32	• Building IA-54, Electric Substation • Building IA-58, X-Ray Building • Building 193, Auto Hobby Shop • Building 263, Ordnance Maintenance • Building 429, Hazardous Waste Accumulation Shed • Diesel Leak Near Main Entrance of Inland Area • UST 5AT	NFA recommended	1992		

Table E-1 Summary of Solid Waste Management Unit Sites

Site Number	Site Name	Program Activity: Key Activity	Program Activity: Date Completed	Description and Current Status	Constituents of Concern
SWMUs Transferred to ER Program					
• SWMU 2 • SWMU 5 • SWMU 7 • SWMU 18	• Building IA-7 Burn Pit near Fire Station • Building IA-12, Locomotive Repair Shop, and Building 269, Wash Station • Building IA-15, Public Works Shop and Automotive Vehicle Maintenance, and Building IA-16, Paint Shop • Building IA-51, Vehicle Maintenance Building	RFA	1992	See Table 3.8-1	See Table 3.8-1
		RFA Confirmation Study	1997		
		SWMUs transferred to ER Program	After 1997		
Other SWMUs					
SWMU 1	Building IA-6, Boiler House	RFA	1992	UST removed on 6/29/89. Petroleum-only site was transferred to UST program to complete the cleanup following the RFA Confirmation Study (see Table E-2). Boiler house demolished in 1997. RWQCB closure issued on 6/16/06.	Diesel fuel oil
		RFA Confirmation Study	1997		
		Transferred to UST program	After 1997		
		NFA; site closed	2006		
SWMU 12	Building IA-24, Forklift Maintenance and Storage (septic system)	RFA	1992	Septic tank waste removed in 1997. RFA Confirmation Study and RCRA Corrective Action Program reports recommended NFA. Septic tank decommissioned in place in 2005. Remainder of site was addressed and closed as IRP Site 17 (see Table 3.8-1).	Metals, fuel and oil constituents
		RFA Confirmation Study	1997		
		RCRA Corrective Action Program activities	1997		
		NFA recommended (septic system)	1997		
SWMU 13	Building IA-25, Missile Component Maintenance (septic system)	RFA	1992	Septic tank waste removed in 1997 under RCRA Corrective Action. RFA Confirmation Study and RCRA Corrective Action Program reports recommended NFA. Remainder of site is being addressed as IRP Site 29 (see Table 3.8-1).	Chlorinated hydrocarbons (especially TCE) and metals
		RFA Confirmation Study	1997		
		RCRA Corrective Action Program activities	1997		
		NFA recommended (septic system)	1997		

Table E-1 Summary of Solid Waste Management Unit Sites

Site Number	Site Name	Program Activity		Description and Current Status	Constituents of Concern
		Key Activity	Date Completed		
SWMU 14	Building IA-27, Carpenter Shop	RFA	1992	Septic tank waste removed in 1997. RFA Confirmation Study and RCRA Corrective Action Program reports recommended NFA. Septic tank decommissioned in place in 2005.	Metals, chemicals from paints
		RFA Confirmation Study	1997		
		RCRA Corrective Action Program activities	1997		
		NFA recommended	1997		
SWMU 15	Building IA-41, Paint Storage	RFA	1992	Building IA-41 has been demolished. RFA Confirmation Study report recommended NFA because the building was determined to not have had a septic system.	Metals
		RFA Confirmation Study	1997		
		NFA recommended	1997		
SWMU 16	Building IA-46, Public Works Maintenance Storage, and Building 150, storage shed	RFA	1992	Pesticide-contaminated (mostly DDT) soils removed under 1997 RCRA Corrective Action. RFA Confirmation Study and RCRA Corrective Action Program reports recommended NFA. RCRA Part B clean-closure issued by DTSC on 6/27/03 for past fluorescent-bulb-crushing operations in Building IA-46. Septic tank decommissioned in place in 2005.	Mercury, asbestos, pesticides
		RFA Confirmation Study	1997		
		RCRA Corrective Action Program activities	1997		
		NFA recommended	1997		
		RCRA Part B clean-closure (fluorescent bulb crushing)	2003		
SWMU 17	Building IA-50, Rail/Truck Transfer Depot	RFA	1992	Septic tank waste removed in 1997. RFA Confirmation Study and RCRA Corrective Action Program reports recommended NFA. Septic tank decommissioned in place in 2005.	Metals, VOCs, chemicals from paints
		RFA Confirmation Study	1997		
		RCRA Corrective Action Program activities	1997		
		NFA recommended	1997		
SWMU 20	Building IA-55, Ordnance Operations Building	RFA	1992	Septic tank waste removed in 1997. RFA Confirmation Study and RCRA Corrective Action Program reports recommended NFA. Septic tank decommissioned in place in 2005.	Metals, VOCs
		RFA Confirmation Study	1997		
		RCRA Corrective Action Program activities	1997		
		NFA recommended	1997		
SWMU 22	Building 81, Ordnance Maintenance and Test Building (septic system)	RFA	1992	Septic system was the focus. RFA Confirmation Study report recommended NFA. Septic tank decommissioned in place in 2005. Remainder of site is being addressed as IRP Site 42 (see Table 3.8-1).	Unspecified hazardous constituents (could include chemicals from paints)
		RFA Confirmation Study	1997		
		NFA recommended (septic system)	1997		

Table E-1 Summary of Solid Waste Management Unit Sites

Site Number	Site Name	Program Activity		Description and Current Status	Constituents of Concern
		Key Activity	Date Completed		
SWMU 23	Building 87, Storage Building	RFA	1992	Septic tank waste removed in 1997. RFA Confirmation Study and RCRA Corrective Action Program reports recommended NFA. Septic tank decommissioned in place in 2005.	Solvents, oil, chemicals from paints
		RFA Confirmation Study	1997		
		RCRA Corrective Action Program activities	1997		
		NFA recommended	1997		
SWMU 24	Building 93, Guided Missile Division (septic system)	RFA	1992	Septic tank waste removed in 1997. RFA Confirmation Study and RCRA Corrective Action Program reports recommended NFA. Septic tank decommissioned in place in 2005. Other portions of the site (e. g. leach field) were subsequently addressed for munitions constituents as an AOPI under a CERLCA SI, which recommended NFA.	Solvents, chemicals from paints
		RFA Confirmation Study	1997		
		RCRA Corrective Action Program activities	1997		
		NFA recommended (septic tank)	1997		
		NFA recommended (leach field)	2013		
SWMU 25	Building 97, Ordnance Assembly Building	RFA	1992	Septic system was the focus. RFA Confirmation Study report recommended NFA. Septic tank decommissioned in place in 2005. Four USTs removed in 1990 under UST program (see Table E-2).	Solvents, oil, chemicals from paints
		RFA Confirmation Study	1997		
		NFA recommended	1997		
SWMU 26	Building 178, Navy Exchange Gasoline Service Station	RFA	1992	Four USTs were removed in 1991 under UST program (see Table E-3). CCHS determination of NFA on 5/28/98. RWQCB closure issued on 12/23/99. Site also addressed under CERCLA Navy CLEAN program.	Petroleum constituents
		Transferred to UST program	1991		
		NFA	1998		
		Site closed	1999		

Table E-1 Summary of Solid Waste Management Unit Sites

Site Number	Site Name	Program Activity		Description and Current Status	Constituents of Concern
		Key Activity	Date Completed		
SWMU 30	Unocal Corporation Oil Pipeline Site	Unocal submitted closure report	1991	1989 release of approximately 84 gallons of crude oil that affected soil and groundwater. 1,900 cubic yards of contaminated soil were removed. Unocal completed soil and groundwater investigation, removed contaminated soil under RWQCB direction, and submitted closure report in 1991. RWQCB recommended NFA in 2016. Site recently investigated for munitions and explosives of concern under ER Program (see Section 3.8.3.3.1).	Crude oil
		DTSC recommended RFI	1992		
		NFA recommended	2016		
SWMU 33	UST 6LC98, Magazine Boiler	RFA	1992	UST removed in 1993 under UST program (see Table E-2). CCHS determination of NFA on 6/1/95. RWQCB determination of NFA on 6/16/06.	Diesel fuel oil
		Transferred to UST program	After 1992		
		NFA	1995, 2006		
SWMU 51	Building IA-56	RFA Confirmation Study	1997	Septic system was the focus. RFA Confirmation Study report recommended NFA. Septic tank decommissioned in place in 2005.	Unspecified hazardous constituents
		NFA recommended	1997		
SWMU 52	Building 7SH5 (septic system)	RFA Confirmation Study	1997	Septic system was the focus. RFA Confirmation Study report recommended NFA. Septic tank decommissioned in place in 2005. Remainder of site is being addressed as part of IRP Site 22 (see Table 3.8-1).	Solvents, metals
		NFA recommended (septic system)	1997		
SWMU 53	Building 7SH14	RFA Confirmation Study	1997	Septic system was the focus. RFA Confirmation Study report recommended NFA. Septic tank decommissioned in place in 2005.	Solvents, metals
		NFA recommended	1997		

Table E-1 Summary of Solid Waste Management Unit Sites

Site Number	Site Name	Program Activity		Description and Current Status	Constituents of Concern
		Key Activity	Date Completed		
SWMU 54	Building 79	RFA Confirmation Study	1997	Septic system was the focus. Septic tank waste removed in 1997. RFA Confirmation Study and RCRA Corrective Action Program reports recommended NFA. Septic tank decommissioned in place in 2005.	Unspecified hazardous constituents
		RCRA Corrective Action Program activities	1997		
		NFA recommended	1997		

CH2M Hill 1997; City of Concord 2010; DTSC 1992; Navy April 2006; Tetra Tech EM, Inc., 2013.

Key:

AOPI = area of potential interest
CERCLA = Comprehensive Environmental Response, Compensation and Liability Act
CLEAN = Comprehensive Long-Term Environmental Action Navy
DTSC = Department of Toxic Substances Control
ER = Environmental Restoration
IRP = Installation Restoration Program
NFA = no further action
RCRA = Resource Conservation and Recovery Act
RFI = RCRA Facility Investigation
RWQCB = Regional Water Quality Control Board
SI = site inspection or site investigation.
SWMU = solid waste management unit
TCE = trichloroethylene
UST = underground storage tank
VOC = volatile organic compound

Table E-2 Summary of Underground and Aboveground Storage Tanks

Location	Tank ID	Tank Capacity (Gallons)	Tank Contents	Date Removed	Current Status	Regulatory Determination
Building 79	UST 79	550	Diesel	11/8/90	CCHS NFA; no additional approvals necessary.	CCHS determination of NFA on 2/21/95.
Building 83	UST 83	6,500	Diesel	3/19/97	RWQCB NFA; no additional approvals necessary.	RWQCB determination of NFA on 10/4/06.
Building 86	UST 86A UST 86B	2,500 2,500	Diesel Diesel	3/19/97	RWQCB NFA; no additional approvals necessary.	RWQCB determination of NFA on 10/4/06.
Building 87	UST 87	6,500	Diesel	3/19/97	Closed.	CCHS determination of NFA on 2/13/98. RWQCB closure on 10/6/05.
	AST 87	Unknown	Unknown	2004	Closed.	Closed; date unknown.
Building 96	UST 96	6,500	Diesel	2/10/97	Closed.	CCHS determination of NFA on 2/13/98. RWQCB closure on 10/24/05.
	AST 96	Unknown	Unknown	2004	Closed.	Closed; date unknown.
Building 97	UST 97A UST 97B UST 97C UST 97D	2,000 2,000 2,000 2,000	Diesel JP-5 Fuel JP-5 Fuel JP-5 Fuel	12/9/90	(Also formerly known as IRP Site 21, Building 97 Fuel Tanks.) CCHS NFA; no additional approvals necessary.	CCHS determination of NFA on 9/18/94, 2/21/95, 7/19/02, and 10/10/06.
	AST 97	1,000	Diesel	Date unknown	Closed.	Closed; date unknown.
Building 178	UST 178A UST 178B UST 178C UST 178D	12,000 12,000 12,000 280	Gasoline Gasoline Gasoline Waste Oil	10/31/91	Closed.	CCHS determination of NFA on 5/28/98. RWQCB closure on 12/23/99.
Building 262	AST 262	500	Propane	Building is on property that was transferred to the Army; current AST status is not relevant to the EIS.		
Building 395	UST 395	3,000	Diesel	2/21/97	CCHS NFA; no additional approvals necessary.	CCHS determination of NFA on 3/18/97.

Table E-2 Summary of Underground and Aboveground Storage Tanks

Location	Tank ID	Tank Capacity (Gallons)	Tank Contents	Date Removed	Current Status	Regulatory Determination
Building 522	UST 523 T-1 UST 524 T-2 UST 525 T-3 UST 526 T-4 UST 527 T-5	12,000 12,000 12,000 12,000 12,000	Gasoline Gasoline Diesel Diesel Diesel	6/1/11	CCHS NFA.	CCHS determination of NFA on 12/27/11.
Building 5AT	UST 5AT	280	Diesel	11/5/90 to 3/1/91	CCHS NFA; no additional approvals necessary.	CCHS determination of NFA on 9/19/94.
Building 6LC98	UST 6LC98	1,000	Diesel	3/8/93	CCHS NFA and RWQCB NFA.	CCHS determination of NFA on 6/1/95 and RWQCB determination of NFA on 6/16/06.
Building 7SH4	UST 7SH4	1,000	Diesel	1/27/97	CCHS NFA; no additional approvals necessary.	CCHS determination of NFA on 4/9/97.
	AST 7SH4	1,000	Unknown	2004	Closed.	Closed; date unknown.
Building 7SH5	UST 7SH5	1,000	Diesel	1/28/97	Closed.	CCHS determination of NFA on 4/8/97. RWQCB closure on 10/26/05.
	AST 7SH5	1,000	Unknown	2004	Closed.	Closed; date unknown.
Building 7SH14	UST 7SH14	3,500	Diesel	1/28/97	CCHS NFA; no additional approvals necessary.	CCHS determination of NFA on 4/17/97.
	AST 7SH14	1,000	Unknown	2004	Closed.	Closed; date unknown.
Building IA-1	UST IA-1A	300	Diesel	2/26/97	CCHS NFA; no additional approvals necessary.	CCHS determination of NFA on 3/18/97.
	UST IA-1B	280	Gasoline	11/8/90	CCHS NFA and RWQCB NFA.	CCHS determination of NFA on 2/21/95. RWQCB determination of NFA on 12/4/06.
	AST IA-1C	500	Diesel	Date unknown	Closed.	Closed; date unknown.
	AST IA-1	1,000	Propane	Date unknown	Closed.	Closed; date unknown.
Building IA-4	AST IA-4B	500	Diesel	Date unknown	Closed.	Closed; date unknown.

Table E-2 Summary of Underground and Aboveground Storage Tanks

Location	Tank ID	Tank Capacity (Gallons)	Tank Contents	Date Removed	Current Status	Regulatory Determination
Building IA-6	UST IA-6	10,000	Diesel	6/29/89	RWQCB NFA; no additional approvals necessary.	RWQCB determination of NFA on 6/16/06.
Building IA-7	AST IA-7	1,000	Propane	Date unknown	Closed.	Closed; date unknown.
Building IA-10	UST IA-10	2,100	Diesel	2/21/97	CCHS NFA; no additional approvals necessary.	CCHS determination of NFA on 3/18/97.
Building IA-12	UST IA-12A	6,000	Waste Oil	11/4/93	Closed.	DTSC acknowledgement of RCRA closure on 3/21/95.
	AST IA-12B AST IA-12C AST IA-12D AST IA-12E AST IA-12F AST IA-12G	550 550 550 2,000 600 600	Engine Oil Engine Oil Engine Oil Hydraulic Oil Used Oil	2004	Closed.	Closed; date unknown.
Building IA-15	AST IA-15B	1,000	Used Oil	2004	Closed.	Closed; date unknown.
Building IA-17	UST IA-17A UST IA-17B UST IA-17C UST IA-17D	10,000 (total)	Gasoline Gasoline Gasoline Diesel	1/19/99	Closed.	RWQCB determination of NFA and RWQCB closure on 7/11/11.
Building IA-18	UST IA-18	500	Diesel	11/8/90	CCHS NFA; no additional approvals necessary.	CCHS determination of NFA on 9/19/94.
Building IA-19	UST IA-19	1,417	Diesel	2/4/93	CCHS NFA and RWQCB NFA.	CCHS determination of NFA on 11/30/93 and RWQCB determination of NFA on 6/16/06.
	UST IA-19A	1,850	Diesel	7/28/04	CCHS NFA; no additional approvals necessary.	CCHS determination of NFA on 9/7/05.
Building IA-24	UST IA-24A	2,000	Diesel	2/10/97	RWQCB NFA; no additional approvals necessary.	RWQCB determination of NFA on 10/4/06.
	AST IA-24	1,000	Diesel	2004	Closed.	Closed; date unknown.
Building IA-35	UST IA-35	1,000	Diesel	11/8/90	Closed.	RWQCB closure on 12/23/99.

Table E-2 Summary of Underground and Aboveground Storage Tanks

Location	Tank ID	Tank Capacity (Gallons)	Tank Contents	Date Removed	Current Status	Regulatory Determination
Building IA-36	UST IA-36	10,000	Diesel	4/15/97	CCHS NFA and RWQCB NFA.	CCHS determination of NFA on 2/13/98 and RWQCB determination of NFA on 6/16/06.
Building IA-55	UST IA-55	550	Diesel	2/10/97	Closed.	CCHS determination of NFA on 4/17/97. RWQCB closure on 11/18/05.
	AST IA-55	Unknown	Unknown	2004	Closed.	Closed; date unknown.
Building IA-56	AST IA-56B	275	Diesel	2004	Closed.	Closed; date unknown.
Building IA-58	UST IA-58	1,000	Diesel	4/15/97	Closed.	CCHS determination of NFA on 2/13/98. RWQCB closure on 11/7/05.

Source: California Regional Water Quality Control Board 2011; Concord Community Reuse Project Office January 2010; Navy April 2006, July 2014; Shaw Environmental and Infrastructure Group 2012.

Key:
AST = aboveground storage tank
CCHS = Contra Costa Health Services
DTSC = Department of Toxic Substances Control
NFA= no further action
RWQCB= Regional Water Quality Control Board
UST = underground storage tank

Figures

This page intentionally left blank.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Solid_Waste_Management_Units_11x17_2014_08_18.mxd

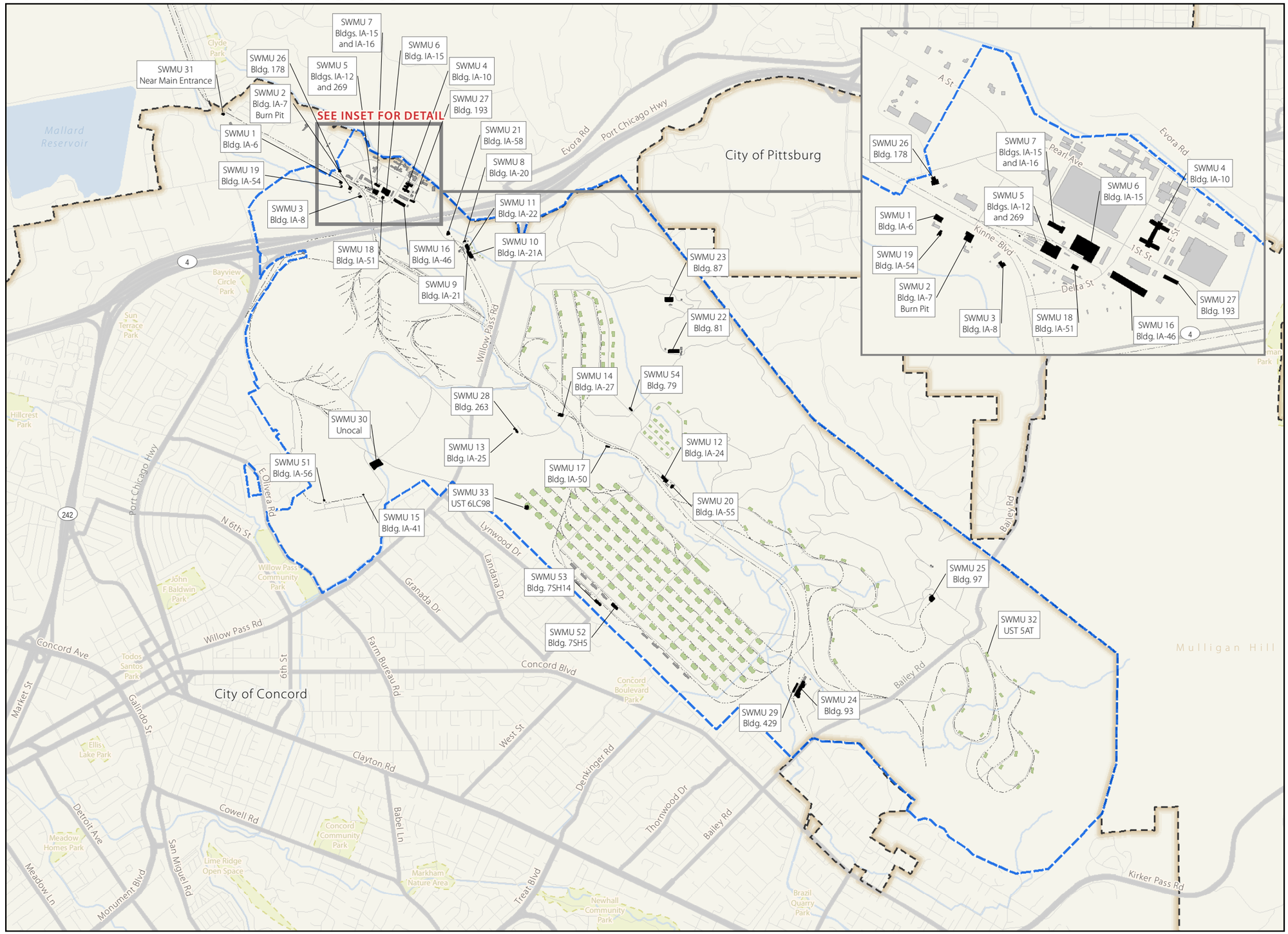


Figure E-1

Solid Waste Management Unit Sites

Former NWS Concord

Concord, California

Legend

- Major Highway
- Street
- Railroad
- Stream/Canal
- Former NWS Concord
- City Limit
- Waterbody
- Local Park
- Solid Waste Management Unit (SWMU)
- Building
- Magazine

SCALE

0 0.5 1 Miles

SOURCE: Navy 2006; ESRI 2010.

This page intentionally left blank.

Appendix F Infrastructure and Utilities Supporting Information

This page intentionally left blank.

Appendix F

Solid Waste Supplemental Information

This appendix contains the assumptions, calculations, and supporting information for evaluating potential impacts on the environment from generating and managing C&D waste and non-C&D solid waste for Alternatives 1 and 2. For simplicity, it is assumed that the construction portion of the proposed action will be dominated by the generation and management of C&D waste, and the operational portion of the proposed action will be dominated by the generation and management of non-C&D waste.

Pertaining to Section **4.12, Other Utilities and Infrastructure, Solid Waste and Recycling Management**
Alternative 1 — Preferred Alternative

C&D Waste

Calculations of estimated C&D waste to be generated during demolition and construction activities of Alternative 1 are shown in Table F-1. Assume that 50% of the 123,000 tons generated by demolition activities and the 58,000 tons generated by construction activities would be diverted from landfilling in accordance with state law (California Integrated Waste Management Act of 1989 [AB 939]). Assume that on-site reuse of C&D waste on former NWS Concord property as hard fill or for other purposes is included in the 50% diversion.

> 0.5 x (123,000 tons + 58,000 tons) = 90,500 tons would require landfilling during buildout period

Demolition and construction likely will not be spread evenly throughout the buildout period and would tend to be concentrated in earlier years, when large portions of the former NWS Concord property would be demolished and cleared for redevelopment. Assume that, conservatively, 75% of the 90,500 tons would require landfilling in the first 10 years of the 25-year buildout period.

> 0.75 x 90,500 tons = 68,000 tons total would require landfilling in first 10 years of 25-year buildout period

Assuming 260 days of work per year in each year of the first 10 years:

> 68,000 tons ÷ 10 years ÷ 260 days/year = 26 tons/day C&D waste would require landfilling in the first 10 years of the 25-year buildout period

Assuming that 73% of the waste goes to Potrero Hills Landfill (PHL) and 27% to Keller Canyon Landfill (KCL), which are the percentages used by the City of Concord:

0.73 x 26 tons/day = 19 tons/day C&D waste would go to PHL during the first 10 years of the buildout period

0.27 x 26 tons/day = 7 tons/day C&D waste would go to KCL during the first 10 years of the buildout period

Non-C&D Waste

During operation of Alternative 1, the FEIR estimated that 49,884 tons per year of non-C&D solid waste would be generated (City of Concord 2010). Assume that means by the time of full buildout. Assuming the same 50% diversion rate, about 25,000 tons of non-C&D solid waste would be landfilled each year once full buildout has been achieved. Assume that, conservatively, non-C&D waste is generated at full buildout rates during the last 10 years of development of the 25-year buildout period.

25,000 tons/year ÷ 365 days/year = 68 tons/day non-C&D waste would require landfilling in the last 10 years of the 25-year buildout period

Assuming that 73% of the waste goes to PHL and 27% to KCL:

0.73 x 68 tons/day = 50 tons/day non-C&D waste would go to PHL during the last 10 years of the buildout period

0.27 x 68 tons/day = 18 tons/day non-C&D waste would go to KCL during the last 10 years of the buildout period

Solid Waste Disposal Relative to Landfill Permits and Quantities Typically Received by the Landfills

PHL is permitted for 3,400 tons per day (a maximum of 4,330 tons per day is allowed as long as an average of 3,400 tons per day averaged over a 7-day week is not exceeded) and KCL is permitted for 3,500 tons per day (Solano County Department of Resource Management 2012; Contra Costa Environmental Health 2009). In 2012, PHL received about 1,075 tons of waste per day (CalRecycle 2014c), and KCL received about 2,000 tons of waste per day (CalRecycle 2014d), well below what each landfill may accommodate by permit.

Assume that solid waste landfilling for the first 10 years of the 25-year buildout is dominated by C&D waste at 26 tons/day:

26 tons/day C&D waste to be landfilled ÷ 1,075 tons/day waste received by PHL (2012) x 100% = 2.4% increase

OR

26 tons/day C&D waste to be landfilled ÷ 2,000 tons/day waste received by KCL (2012) x 100% = 1.3% increase

Assume that solid waste landfilling for the last 10 years of the 25-year buildout is dominated by operational non-C&D waste at 68 tons/day:

68 tons/day non-C&D waste to be landfilled ÷ 1,075 tons/day waste received by PHL (2012) x 100% = 6.3% increase

OR

68 tons/day non-C&D waste to be landfilled ÷ 2,000 tons/day waste received by KCL (2012) x 100% = 3.4% increase

The above assumes that the relative waste quantities received by each landfill in 2012 will hold true throughout the buildout period.

Pertaining to Section **4.12, Other Utilities and Infrastructure, Solid Waste and Recycling Management**
Alternative 2 — Intensified Reuse

C&D Waste
Calculations of estimated C&D waste to be generated during demolition and construction activities of Alternative 2 are shown in Table F-1. General assumptions are the same as Alternative 1. Alternative 2 differs slightly from Alternative 1 in the estimates of C&D waste generated from construction, which is greater for the intensified reuse alternative.

0.5 x (123,000 tons + 71,000 tons) = 97,000 tons would require landfilling during buildout period

0.75 x 97,000 tons = 73,000 (rounded) tons total would require landfilling in first 10 years of 25-year buildout period

73,000 tons ÷ 10 years ÷ 260 days/year = 28 tons/day C&D waste would require landfilling in the first 10 years of the 25-year buildout period

0.73 x 28 tons/day = 20 tons/day C&D waste would go to PHL during the first 10 years of the buildout period

0.27 x 28 tons/day = 8 tons/day C&D waste would go to KCL during the first 10 years of the buildout period

Non-C&D Waste
Under Alternative 2, the additional residential population is estimated to be about 30% greater than under Alternative 1. Commercial contributions to non-C&D waste would remain unchanged. Accordingly, 56,000 tons per year were estimated to be generated. Assume that means by the time of full buildout. Assuming the same 50% diversion rate, about 28,000 tons of non-C&D solid waste would be landfilled each year once full

buildout has been achieved. Assume that, conservatively, non-C&D waste is generated at full buildout rates during the last 10 years of development of the 25-year buildout period.

28,000 tons/year ÷ 365 days/year = 77 tons/day non-C&D waste would require landfilling in the last 10 years of the 25-year buildout period

Assuming that 73% of the waste goes to PHL and 27% to KCL:

0.73 x 77 tons/day = 56 tons/day non-C&D waste would go to PHL during the last 10 years of the buildout period

0.27 x 77 tons/day = 21 tons/day non-C&D waste would go to KCL during the last 10 years of the buildout period

Solid Waste Disposal Relative to Landfill Permits and Quantities Typically Received by the Landfills

The permit requirements and 2012 disposal data for PHL and KCL are described under Alternative 1 — 1,075 tons/day received at PHL and 2,000 tons/day received at KCL in 2012, well below what each landfill can accommodate by permit.

Assume that solid waste landfilling for the first 10 years of the 25-year buildout is dominated by C&D waste at 28 tons/day:

28 tons/day C&D waste to be landfilled ÷ 1,075 tons/day waste received by PHL (2012) x 100% = 2.6% increase

OR

28 tons/day C&D waste to be landfilled ÷ 2,000 tons/day waste received by KCL (2012) x 100% = 1.4% increase

Assume that solid waste landfilling for the last 10 years of the 25-year buildout is dominated by operational solid waste at 77 tons/day:

77 tons/day solid waste to be landfilled ÷ 1,075 tons/day waste received by PHL (2012) x 100% = 7.2% increase

OR

77 tons/day solid waste to be landfilled ÷ 2,000 tons/day waste received by KCL (2012) x 100% = 3.9% increase

The above assumes that the relative waste quantities received by each landfill in 2012 will hold true throughout the buildout period.

Table F-1 C&D Waste Estimates

Demolition C&D Waste Estimates

Demolition C&D Waste Estimates -- Weapons magazines

Feature	Description	Material	Dimensions	Sq Ft	Other notes	calc'd vol of material of construction (cu yd)	Estimated volume of ACM (cu yd)	C&D Waste (cu yd)	C&D Waste (tons)
Site 22 magazine	weapons magazine	assume reinforced concrete; some steel	- 170 ft x 82 ft at bottom of trapezoid as measured with ArcMap tool. [Google map observation shows about 130 ft x 75 ft at bottom of trapezoid and 80 ft x 40 ft at top of trapezoid. ALH 2013 says 170 ft x 120 ft.]. Trapezoidal above surface; assume rectangular below surface. Due to discrepancies in dimensions and irregular shape, assume ave of 130 ft L x 60 ft W x 15 ft H if the bunker were a rectangle. -There are 118 magazines.	920,400	- Assume wall thickness of 0.5 feet (ALH 2013). - Assume height of 15 feet (unknown). - Internal walls and other components not known and not taken into account. - Aboveground divisions in bunkers not taken into account (some aboveground portions are not continuous). - Assume 25% load factor.	46,544		58,181	14,080
Site 22A magazine	weapons magazine	assume reinforced concrete; some steel	- 90 ft x 53 ft at bottom of a common magazine shape as measured with ArcMap tool. [Google map observation shows about 80 ft x 50 ft at bottom of shape, with a very narrow top to the trapezoid.] Trapezoidal above surface; assume rectangular below surface. Due to discrepancies in dimensions and irregular shape, assume ave of 70 ft L x 40 ft W x 15 ft H if the bunker were a rectangle. - There are 103 magazines.	288,400	- Not all magazines are the same dimensions across Site 22A. The larger, more-common magazine shape was used. - Assume wall thickness of 0.5 feet (ALH 2013). - Assume height of 15 feet (unknown). - Internal walls and other components not known and not taken into account. - Assume 25% load factor.	16,976		21,220	5,135
Subtotal								**79,400**	**19,215**

Demolition C&D Waste Estimates -- Other on-site inventory

Feature	Description	Material	Dimensions	Sq Ft	Other notes	calc'd vol of material of construction (cu yd)	Estimated volume of ACM (cu yd)	C&D Waste (cu yd)	C&D Waste (tons)
Buildings	mostly industrial	brick, masonry, other		709,000	- 709,000 sq ft from ALH 2013. - Assume square footage value applies to all building stories and is not just a footprint value.		46,290	231,450	56,011
Railroad track		metal, wood	55 miles; 290,400 linear feet		- 55 miles figure from EIS Table 1-1. - Assume 3,000 ties/mile; 7"x9"x8.5' ties at 0.01205 cy/ft; rails 0.0025 cy/foot (each). - Assume ballast quantity of 1.78 cy/foot. - Assume 25% load factor.	24,306		31,598	7,647
Airfield runway and other paved areas (roads, parking lots, etc.)		asphalt, concrete, other		7,033,671	- Area from EIS Table 1-1 (781,519 sq yd). - Assume avg thickness 0.5 feet. - Assume 25% load factor.	130,253		169,329	40,978
Subtotal								**432,377**	**104,635**
Total								**511,778**	**123,850**
					total C&D waste			511,778	123,850
					contingency (5%)			25,589	6,193
					grand total			**537,367**	**130,043**

Notes:

1. Demolition estimates and formulas do not account for the weight of heavy mechanical components in buildings.
2. These are order-of-magnitude estimates only, based on information at hand.
3. Total C&D waste estimates were not commensurately reduced by asbestos-containing material (ACM) waste estimates.

Construction C&D Waste Estimates

Alt 1 Construction C&D Waste Estimates

Feature	Approx. Acreage	Approx Commercial Floor Space (or Parking/ road area) (Sq Ft)	Approx Residential Floor Space (Sq Ft)	Other notes	C&D Waste (cu yd)	C&D Waste (tons)
North Concord TOD Core	55.00	3,000,000	-	commercial floor space: EIS Table 2-2	26,901	6,510
North Concord TOD Neighborhoods	90.00	150,000	see below	commercial floor space: EIS Table 2-2	1,345	326
Central Neighborhoods	180.00	100,000	see below	commercial floor space: EIS Table 2-2	897	217
Village Centers	70.00	350,000	-	commercial floor space: EIS Table 2-2	3,138	760
Village Neighborhoods	740.00	not applicable	see below	EIS Table 2-2		0
Commercial Flex	210.00	1,700,000	-	commercial floor space: EIS Table 2-2	15,244	3,689
Campus	120.00	800,000	-	commercial floor space: EIS Table 2-2	7,174	1,736
First Responder Training Center	80.00	*[still need]*	-	EIS Table 2-2		0
Greenways, Citywide Parks, and Tournament Facilities	786.00	not applicable	not applicable	EIS Table 2-2		0
Conservation Open Space	2,715.00	not applicable	not applicable	EIS Table 2-2		0
(residential floor space total)	-	-	19,028,900	ALH 2013	172,597	41,768
Subtotal	5,046.00	6,100,000.00			**227,295**	55,005
Parking space -- residential		8,407,000		ALH 2013	7,539	1,824
Parking space -- commercial		5,654,250		ALH 2013	5,070	1,227
Roadways		*[still need]*				0
Other		*[still need]*				0
Subtotal					**12,609**	3,051
Total					**239,904**	**58,057**
				total C&D waste	239,904	58,057
				contingency (5%)	11,995	2,903
				grand total	**251,899**	**60,960**

Alt 2 Construction C&D Waste Estimates

Feature	Approx. Acreage	Approx Commercial Floor Space (or Parking/ road area) (Sq Ft)	Approx Residential Floor Space (Sq Ft)	Other notes	C&D Waste (cu yd)	C&D Waste (tons)
North Concord TOD Core	80.00	3,000,000	-	commercial floor space: EIS Table 2-2	26,901	6,510
North Concord TOD Neighborhoods	85.00	150,000	see below	commercial floor space: EIS Table 2-2	1,345	326
Central Neighborhoods	200.00	100,000	see below	commercial floor space: EIS Table 2-2	897	217
Village Centers	50.00	350,000	-	commercial floor space: EIS Table 2-2	3,138	760
Village Neighborhoods	730.00	not applicable	see below	EIS Table 2-2		0
Commercial Flex	210.00	1,700,000	-	commercial floor space: EIS Table 2-2	15,244	3,689
Campus	80.00	800,000	-	commercial floor space: EIS Table 2-2	7,174	1,736
First Responder Training Center	-	-	-	EIS Table 2-2		0
Greenways, Citywide Parks, and Tournament Facilities	786.00	not applicable	not applicable	EIS Table 2-2		0
Conservation Open Space	2,825.00	not applicable	not applicable	EIS Table 2-2		0
(residential floor space total)	-	-	24,756,287	scaled up for 15,872 housing units from ALH 2013 value for Alt 1 for 12,200 housing units	224,546	54,340
Subtotal	5,046.00	6,100,000.00			**279,244**	**67,577**
Parking space -- residential		8,407,000		assume same for now as Alt 1	7,539	1,824
Parking space -- commercial		5,654,250		assume same for now as Alt 1	5,070	1,227
Roadways		*[still need]*				0
Other		*[still need]*				0
Subtotal					**12,609**	**3,051**
Total					**291,853**	**70,628**
				total C&D waste	291,853	70,628
				contingency (5%)	14,593	3,531
				grand total	**306,446**	**74,159**

Notes:

1. These are order-of-magnitude estimates only, based on information at hand.

Sources:

ALH Urban & Regional Economics. 2013. Concord Reuse Project Area Plan; Summary of Updated Financial Analysis. Technical memorandum to Michael Wright, City of Concord. January 28, 2013.

Cascadia Consulting Group. 2006. Targeted Statewide Waste Characterization Study: Detailed Characterization of Construction and Demolition Waste. Contractor's Report to the Board. California Environmental Protection Agency. Integrated Waste Management Board. June 2006.

EPA. 2009. Estimating 2003 Building-Related Construction and Demolition Materials Amounts. EPA 530-R-09-002. Office of Resource Conservation and Recovery. March 2009.

Townsend, Timothy, Ph.D. 2000. Converting C&D Debris from Volume to Weight. A Fact Sheet for C&D Debris Facility Operators. Florida Department of Environmental Protection. Hinkley Center for Solid and Hazardous Waste Management. March 2000.

Formulas and Factors -- Demolition					
Feature	**Description**	**Material**	**Formula**	**SF or Vol Multiplier**	**Notes**
General buildings	Industrial type	Brick/Masonry, other	sf x (158 lbs/sf / 484 lbs/cy) = cy	0.326446281	Nonresidential demolition from EPA 2009 table 2-4 and weight to cy conversion from Townsend 2000
Concrete magazine	munitions magazines	concrete	(material volume / .8 for loaded waste volume)	1.25	calculated volume / 80% factor for loaded waste volume based upon Engineer's experience.
Railroad	Rail line	Steel rails; wooden ties	Rails + ties: feet x ((2 x 0.0675 cf/f) + (0.5833 ft x 0.75ft x 8.5 ft)/1.75ft)))/27 cy/ft = cy	0.1088	calculated volume plus 30% factor for loaded waste volume based upon Engineer's experience.
Roads and pavements	Runway, roads, parking lots, etc.	Asphalt, concrete	(material area sf x 0.5 ft x 1.30 load factor x (1 cy/27cf))	0.024074074	calculated volume / 80% factor for loaded waste volume based upon Engineer's experience.
General buildings	Buildings - commercial and residential	Asbestos-containing building materials	sf x (158 lbs/sf / 484 lbs/cy) x 0.20 = cy	0.065289256	Estimate that 20% of building material is ACM (by volume). Reference: ALH ECON, Technical Memorandum, January 28, 2013.

Formulas and Factors -- New Construction				
Feature	**Formula**	**SF or Vol Multiplier**	**Notes**	
Commercial Building	sf x 4.34 lbs/sf / 484lbs/cy = cy	0.00896694	Nonresidential construction	
Asphalt parking area with concrete curbs - commercial and residential	cy	0.00089669	Engineer's estimate: 10% of commercial building generation rate	
Residential building	sf x 4.39 lbs/sf / 484lbs/cy = cy	0.00907025	Residential construction	

Alternative 1 (Preferred Alternative): Projected Water Demand

Dev District	Land Uses	Unit of Measure	Demand per Unit	Water Demand (gpd)	Notes
North Concord TOD Core	Commercial Office (Class A)	2,550,000 sq ft	125 per 1,000 sq ft	318,750	
	Commercial Retail (Town Center)	50,000 sq ft	60 per 1,000 sq ft	3,000	
	Commercial Hotel (Mid-Rise)	Unit with restaurant (900 units or rooms)	125	112,500	Assumed with restaurant for most conservative estimate. Assumed hotel will be 4 floors, each with 100,000 sq ft. First floor would also include lobby, restaurant, meeting rooms, etc. and therefore would have only 75,000 sq ft for rooms. Average hotel room size of 400 sq ft. Given that along with 300,000 sq ft in room space on remaining floors, a total of 937 rooms would result; total has been rounded down to 900 to account for some hallway space.
	Res - Hi Density Multi-unit Hsng	Unit (total of 700)	180 per unit of < 3 bedrooms	126,000	Based on apartments; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				560,250	
North Concord TOD Neighborhoods	Res – Mod Density Townhomes	Unit (total of 490)	180 per unit of < 3 bedrooms	88,200	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mod to Hi Density Multi-unit Hsng	Unit (total of 860)	180 per unit of < 3 bedrooms	154,800	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Hsg	Unit (total of 450)	180 per unit of < 3 bedrooms	81,000	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Hi Density Multi-unit Housing	Unit (total of 400)	180 per unit of < 3 bedrooms	72,000	Based on apartments; assumed that these units would be less than three bedrooms
	Commercial Retail (Town Center)	150,000 square feet	60 per 1,000 sq ft	9,000	
DISTRICT TOTAL				405,000	
Central Neighborhoods	Res – Mod to Lo Density SF Attach Hsng	Unit (total of 260)	280 per unit	72,800	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mod Density Townhomes	Unit (total of 1,950)	180 per unit of < 3 bedrooms	351,000	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mod to High Density Multi-unit Hsng	Unit (total of 400)	180 per unit of < 3 bedrooms	72,000	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Housing	Unit (total of 250)	180 per unit of < 3 bedrooms	45,000	Based on apartments; assumed that these units would be less than three bedrooms
	Commercial Retail (Town Center)	100,000 square feet	60 per 1,000 sq ft	600	
DISTRICT TOTAL				541,400	
Village Centers	Commercial Retail (Neighborhood and Mixed Use)	350,000 square feet	60 per 1,000 sq ft	21,000	
	Res – Moderate Density Townhomes	Unit (total of 18)	180 per unit of < 3 bedrooms	3,240	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Housing	Unit (total of 300)	180 per unit of < 3 bedrooms	54,000	Based on apartments; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				78,240	
Village Neighborhoods	Res – Lo Density SF Detached Hsng	Unit (total of 1,100)	280 per unit	308,000	
	Res - Mod to Lo Dens SF Attach Hsng	Unit (total of 3,040)	280 per unit	851,200	
	Res – Moderate Density Townhomes	Unit (total of 2,060)	180 per unit of < 3 bedrooms	370,800	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				1,530,000	

Commercial Flex	Commercial Office (Office Park/R&D)	730,000 sq ft	60 per 1,000 sq ft	43,800	
	Commercial Retail (Regional Retail)	850,000 sq ft	60 per 1,000 sq ft	51,000	
	Commercial Hotel (Business/Ltd Hotel)	Unit with restaurant (225 units or rooms)	125	28,125	Assumed with restaurant for most conservative estimate. First floor would also include lobby, restaurant, meeting rooms, etc., comprising a total of approximately 20,000 sq ft. Average hotel room size of 400 sq ft. Given that along with 100,000 sq ft in room space yields a total of 250 rooms total has been rounded down to 225 to account for some hallway space.
DISTRICT TOTAL				122,925	
Campus	Commercial Office (Campus Cluster)	800,000 sq ft	60 per 1,000 sq ft	48,000	
DISTRICT TOTAL				48,000	
First Responders Training Center	First Responder Training Center Facilities	Space (total of 2)	180	360	Due to the composition off the training center as predominantly outdoor training areas, a park-like restroom has been assumed using the campground per space estimate. Assumed due to the space, that it is inclusive of at least 3 people for multiple uses per day. Therefore, one campground space equates to approximately 4 restroom stalls and sinks. Two spaces have been assumed for this use.
DISTRICT TOTAL				360	
Greenways, Citywide Parks, and Tournament Facilities	Citywide Park – Willow Pass Park Extension	Space (total of 4)	180	720	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Size of this park is 45 acres so assumed a total of 2 restroom facilities for the park. Each facility would be comprised of the equivalent of 2 stalls for both men/women.
	Citywide Park – Tournament Facility	Space (total of 8)	180	1,440	Based on campground - per space due to lack of other similar land uses Nelson 2004. Assumed that one campground space is inclusive of at least 3 people for multiple uses per day. Therefore, one campground space can be assumed to be approx. 4 restroom stalls and sinks. For the tournament facility which is largely comprised of ball fields and similar, assumed a total of 8 spaces.
	Citywide Park – Adj to Tournament Facility	Space (total of 8)	180	1440	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Size of this park is 100 acres so assumed a total of 4 restroom facilities for the park. Each facility would be comprised of the equivalent of 2 stalls for both men/women.
	Mt. Diablo Golf Course	Space (total of 2)	180	360	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Assumed golf course club house would have the equivalent of two campground spaces.
	Central Greenway	N/A	N/A	--	
	Neighborhood Frame	N/A	N/A	--	
DISTRICT TOTAL				3,960	
Conservation Open Space	Mt. Diablo Creek Corridor	N/A	N/A	N/A	Assumed due to conservation open space that there would be no restrooms.
	Regional Park	N/A	N/A	N/A	Assumed due to conservation open space that there would be no restrooms.
DISTRICT TOTAL				N/A	
TOTAL				3,290,135	0

Notes:

The estimates above have been based on guidance included in Nelson 2004. Land uses and associated water consumption estimates were taken from Table 8-1 Water Consumption by Land Use.

Alternative 1 (Preferred Alternative): Projected Wastewater Generation

Dev District	Land Uses	Unit of Measure	Demand per Unit	Wastewater Flow (gpd)	Notes
North Concord TOD Core	Commercial Office (Class A)	2,550,000 sq ft	119 per 1,000 sq ft	303,450	
	Commercial Retail (Town Center)	50,000 sq ft	572 per 1,000 sq ft	28,600	
	Commercial Hotel (Mid-Rise)	Unit with restaurant (900 units or rooms)	119	107,100	Assumed with restaurant for most conservative estimate. Assumed hotel will be 4 floors, each with 100,000 sq ft. First floor would also include lobby, restaurant, meeting rooms, etc. and therefore would have only 75,000 sq ft for rooms. Average hotel room size of 400 sq ft. Given that along with 300,000 sq ft in room space on remaining floors, a total of 937 rooms would result; total has been rounded down to 900 to account for some hallway space.
	Res - Hi Density Multi-unit Hsng	Unit (total of 700)	162 per unit of < 3 bedrooms	113,400	Based on apartments; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				552,550	
North Concord TOD Neighborhoods	Res – Mod Density Townhomes	Unit (total of 490)	162 per unit of < 3 bedrooms	79,380	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mod to Hi Density Multi-unit Hsng	Unit (total of 860)	162 per unit of < 3 bedrooms	139,320	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Hsg	Unit (total of 450)	162 per unit of < 3 bedrooms	72,900	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Hi Density Multi-unit Housing	Unit (total of 400)	162 per unit of < 3 bedrooms	64,800	Based on apartments; assumed that these units would be less than three bedrooms
	Commercial Retail (Town Center)	150,000 square feet	572 per 1,000 sq ft	85,800	
DISTRICT TOTAL				442,200	
Central Neighborhoods	Res – Mod to Lo Density SF Attach Hsng	Unit (total of 260)	224 per unit	58,240	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mod Density Townhomes	Unit (total of 1,950)	162 per unit of < 3 bedrooms	315,900	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mod to High Density Multi-unit Hsng	Unit (total of 400)	162 per unit of < 3 bedrooms	64,800	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Housing	Unit (total of 250)	162 per unit of < 3 bedrooms	40,500	Based on apartments; assumed that these units would be less than three bedrooms
	Commercial Retail (Town Center)	100,000 square feet	572 per 1,000 sq ft	57,200	
DISTRICT TOTAL				536,640	
Village Centers	Commercial Retail (Neighborhood and Mixed Use)	350,000 square feet	572 per 1,000 sq ft	200,200	
	Res – Moderate Density Townhomes	Unit (total of 18)	162 per unit of < 3 bedrooms	2,916	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Housing	Unit (total of 300)	162 per unit of < 3 bedrooms	48,600	Based on apartments; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				251,716	
Village Neighborhoods	Res – Lo Density SF Detached Hsng	Unit (total of 1,100)	224 per unit	246,400	
	Res - Mod to Lo Dens SF Attach Hsng	Unit (total of 3,040)	224 per unit	680,960	
	Res – Moderate Density Townhomes	Unit (total of 2,060)	162 per unit of < 3 bedrooms	333,720	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				1,261,080	

Commercial Flex	Commercial Office (Office Park/R&D)	730,000 sq ft	119 per 1,000 sq ft	86,870	
	Commercial Retail (Regional Retail)	850,000 sq ft	572 per 1,000 sq ft	486,200	
	Commercial Hotel (Business/Ltd Hotel)	Unit with restaurant (225 units or rooms)	119	26,775	Assumed with restaurant for most conservative estimate. First floor would also include lobby, restaurant, meeting rooms, etc., comprising a total of approximately 20,000 sq ft. Average hotel room size of 400 sq ft. Given that along with 100,000 sq ft in room space yields a total of 250 rooms total has been rounded down to 225 to account for some hallway space.
DISTRICT TOTAL				599,845	
Campus	Commercial Office (Campus Cluster)	800,000 sq ft	119 per 1,000 sq ft	95,200	
DISTRICT TOTAL				95,200	
First Responders Training Center	First Responder Training Center Facilities	Space (total of 2)	144	288	Due to the composition off the training center as predominantly outdoor training areas, a park-like restroom has been assumed using the campground per space estimate. Assumed due to the space, that it is inclusive of at least 3 people for multiple uses per day. Therefore, one campground space equates to approximately 4 restroom stalls and sinks. Two spaces have been assumed for this use.
DISTRICT TOTAL				288	
Greenways, Citywide Parks, and Tournament Facilities	Citywide Park – Willow Pass Park Extension	Space (total of 4)	144	576	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Size of this park is 45 acres so assumed a total of 2 restroom facilities for the park. Each facility would be comprised of the equivalent of 2 stalls for both men/women.
	Citywide Park – Tournament Facility	Space (total of 8)	144	1,152	Based on campground - per space due to lack of other similar land uses Nelson 2004. Assumed that one campground space is inclusive of at least 3 people for multiple uses per day. Therefore, one campground space can be assumed to be approx. 4 restroom stalls and sinks. For the tournament facility which is largely comprised of ball fields and similar, assumed a total of 8 spaces.
	Citywide Park – Adj to Tournament Facility	Space (total of 8)	144	1152	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Size of this park is 100 acres so assumed a total of 4 restroom facilities for the park. Each facility would be comprised of the equivalent of 2 stalls for both men/women.
	Mt. Diablo Golf Course	Space (total of 2)	144	288	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Assumed golf course club house would have the equivalent of two campground spaces.
	Central Greenway	N/A	N/A	--	
	Neighborhood Frame	N/A	N/A	--	
DISTRICT TOTAL				3,168	
Conservation Open Space	Mt. Diablo Creek Corridor	N/A	N/A	N/A	Assumed due to conservation open space that there would be no restrooms.
	Regional Park	N/A	N/A	N/A	Assumed due to conservation open space that there would be no restrooms.
				N/A	
TOTAL				3,742,687	0

Notes:

The estimates above have been based on guidance included in Nelson 2004. Land uses and associated wastewater flow estimates were taken from Table 8-2 Wastewater Treatment by Land Use.

Alternative 2: Projected Water Demand

Dev District	Land Uses	Unit of Measure	Demand per Unit	Water Demand (gpd)	Notes
North Concord TOD Core	Commercial Office (Class A)	2,550,000 sq ft	125 per 1,000 sq ft	318,750	
	Commercial Retail (Town Center)	50,000 sq ft	60 per 1,000 sq ft	3,000	
	Commercial Hotel (Mid-Rise)	Unit with restaurant (900 units or rooms)	125	112,500	Assumed with restaurant for most conservative estimate. Assumed hotel will be 4 floors, each with 100,000 sq ft. First floor would also include lobby, restaurant, meeting rooms, etc. and therefore would have only 75,000 sq ft for rooms. Average hotel room size of 400 sq ft. Given that along with 300,000 sq ft in room space on remaining floors, a total of 937 rooms would result; total has been rounded down to 900 to account for some hallway space.
	Res - Hi Density Multi-unit Hsng	N/A	N/A	N/A	Based on apartments; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				434,250	
North Concord TOD Neighborhoods	Res – Mod Density Townhomes	N/A	N/A	N/A	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mod to Hi Density Multi-unit Hsng	Unit (total of 100)	180 per unit of < 3 bedrooms	18,000	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Hsg	Unit (total of 109)	180 per unit of < 3 bedrooms	19,620	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Hi Density Multi-unit Housing	Unit (total of 4,000)	180 per unit of < 3 bedrooms	720,000	Based on apartments; assumed that these units would be less than three bedrooms
	Commercial Retail (Town Center)	150,000 sq ft	60 per 1,000 sq ft	9,000	
DISTRICT TOTAL				766,620	
Central Neighborhoods	Res – Mod to Lo Density SF Attach Hsng	Unit (total of 333)	280 per unit	72,800	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mod Density Townhomes	Unit (total of 2,000)	180 per unit of < 3 bedrooms	351,000	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mod to High Density Multi-unit Hsng	Unit (total of 150)	180 per unit of < 3 bedrooms	72,000	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Housing	Unit (total of 425)	180 per unit of < 3 bedrooms	45,000	Based on apartments; assumed that these units would be less than three bedrooms
	Commercial Retail (Town Center)	100,000 sq ft	60 per 1,000 sq ft	6,000	
DISTRICT TOTAL				546,800	
Village Centers	Commercial Retail (Neighborhood and Mixed Use)	350,000 square feet	60 per 1,000 sq ft	21,000	
	Res – Moderate Density Townhomes	Unit (total of 100)	180 per unit of < 3 bedrooms	18,000	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Housing	Unit (total of 400)	180 per unit of < 3 bedrooms	72,000	Based on apartments; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				111,000	
Village Neighborhoods	Res – Lo Density SF Detached Hsng	Unit (total of 1,043)	280 per unit	292,040	
	Res - Mod to Lo Dens SF Attach Hsng	Unit (total of 3,040)	280 per unit	851,200	
	Res – Moderate Density Townhomes	Unit (total of 2,060)	180 per unit of < 3 bedrooms	370,800	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				1,514,040	

Commercial Flex	Commercial Office (Office Park/R&D)	730,000 sq ft	60 per 1,000 sq ft	43,800	
	Commercial Retail (Regional Retail)	850,000 sq ft	60 per 1,000 sq ft	51,000	
	Commercial Hotel (Business/Ltd Hotel)	Unit with restaurant (225 units or rooms)	125	28,125	Assumed with restaurant for most conservative estimate. First floor would also include lobby, restaurant, meeting rooms, etc., comprising a total of approximately 20,000 sq ft. Average hotel room size of 400 sq ft. Given that along with 100,000 sq ft in room space yields a total of 250 rooms total has been rounded down to 225 to account for some hallway space.
DISTRICT TOTAL				122,925	
Campus	Commercial Office (Campus Cluster)	800,000 sq ft	60 per 1,000 sq ft	48,000	
DISTRICT TOTAL				48,000	
First Responders Training Center	First Responder Training Center Facilities	N/A	N/A	N/A	Due to the composition off the training center as predominantly outdoor training areas, a park-like restroom has been assumed using the campground per space estimate. Assumed due to the space, that it is inclusive of at least 3 people for multiple uses per day. Therefore, one campground space equates to approximately 4 restroom stalls and sinks. Two spaces have been assumed for this use.
DISTRICT TOTAL				0	
Greenways, Citywide Parks, and Tournament Facilities	Citywide Park – Willow Pass Park Extension	Space (total of 4)	180	720	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Size of this park is 45 acres so assumed a total of 2 restroom facilities for the park. Each facility would be comprised of the equivalent of 2 stalls for both men/women.
	Citywide Park – Tournament Facility	Space (total of 8)	180	1,440	Assumed retail use for these estimates due to the arena-type tournament facility and lack of other similar uses in the guidance.
	Citywide Park – Ad to Tournament Facility	Space (total of 8)	180	1440	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Size of this park is 100 acres so assumed a total of 4 restroom facilities for the park. Each facility would be comprised of the equivalent of 2 stalls for both men/women.
	Mt. Diablo Golf Course	Space (total of 2)	180	360	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Assumed golf course club house would have the equivalent of two campground spaces.
	Central Greenway	N/A	N/A	--	
	Neighborhood Frame	N/A	N/A	--	
DISTRICT TOTAL				3,960	
Conservation Open Space	Mt. Diablo Creek Corridor	N/A	N/A	N/A	Assumed due to conservation open space that there would be no restrooms.
	Regional Park	N/A	N/A	N/A	Assumed due to conservation open space that there would be no restrooms.
				N/A	
TOTAL				3,547,595	0

Notes:

The estimates above have been based on guidance included in Nelson 2004. Land uses and associated water consumption estimates were taken from Table 8-1 Water Consumption by Land Use.

Alternative 2: Projected Wastewater Generation

Dev District	Land Uses	Unit of Measure	Demand per Unit	Wastewater Flow (gpd)	Notes
North Concord TOD Core	Commercial Office (Class A)	2,550,000 sq ft	119 per 1,000 sq ft	303,450	
	Commercial Retail (Town Center)	50,000 sq ft	572 per 1,000 sq ft	28,600	
	Commercial Hotel (Mid-Rise)	Unit with restaurant (900 units or rooms)	119	107,100	Assumed with restaurant for most conservative estimate. Assumed hotel will be 4 floors, each with 100,000 sq ft. First floor would also include lobby, restaurant, meeting rooms, etc. and therefore would have only 75,000 sq ft for rooms. Average hotel room size of 400 sq ft. Given that along with 300,000 sq ft in room space on remaining floors, a total of 937 rooms would result; total has been rounded down to 900 to account for some hallway space.
	Res - Hi Density Multi-unit Hsng	N/A	N/A	N/A	Based on apartments; assumed that these units would be less than three bedrooms

DISTRICT TOTAL				439,150	
North Concord TOD Neighborhoods	Res – Mod Density Townhomes	N/A	N/A	N/A	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mod to Hi Density Multi-unit Hsng	Unit (total of 100)	162 per unit of < 3 bedrooms	16,200	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Hsg	Unit (total of 109)	162 per unit of < 3 bedrooms	1,530,900	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Hi Density Multi-unit Housing	Unit (total of 4,000)	162 per unit of < 3 bedrooms	648,000	Based on apartments; assumed that these units would be less than three bedrooms
	Commercial Retail (Town Center)	150,000 sq ft	572 per 1,000 sq ft	85,800	
DISTRICT TOTAL				2,280,900	
Central Neighborhoods	Res – Mod to Lo Density SF Attach Hsng	Unit (total of 333)	224 per unit	74,592	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mod Density Townhomes	Unit (total of 2,000)	162 per unit of < 3 bedrooms	324,000	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mod to High Density Multi-unit Hsng	Unit (total of 150)	162 per unit of < 3 bedrooms	24,300	Based on apartments; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Housing	Unit (total of 425)	162 per unit of < 3 bedrooms	68,850	Based on apartments; assumed that these units would be less than three bedrooms
	Commercial Retail (Town Center)	100,000 sq ft	572 per 1,000 sq ft	57,200	
DISTRICT TOTAL				548,942	
Village Centers	Commercial Retail (Neighborhood and Mixed Use)	350,000 square feet	572 per 1,000 sq ft	200,200	
	Res – Moderate Density Townhomes	Unit (total of 100)	162 per unit of < 3 bedrooms	16,200	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
	Res – Mixed-Use Multi-unit Housing	Unit (total of 400)	162 per unit of < 3 bedrooms	64,800	Based on apartments; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				281,200	
Village Neighborhoods	Res – Lo Density SF Detached Hsng	Unit (total of 1,043)	224 per unit	233,632	
	Res - Mod to Lo Dens SF Attach Hsng	Unit (total of 3,040)	224 per unit	680,960	
	Res – Moderate Density Townhomes	Unit (total of 2,060)	162 per unit of < 3 bedrooms	333,720	Based on apartments as there is no specific land use for townhomes; assumed that these units would be less than three bedrooms
DISTRICT TOTAL				1,248,312	
Commercial Flex	Commercial Office (Office Park/R&D)	730,000 sq ft	119 per 1,000 sq ft	86,870	
	Commercial Retail (Regional Retail)	850,000 sq ft	572 per 1,000 sq ft	486,200	
	Commercial Hotel (Business/Ltd Hotel)	Unit with restaurant (225 units or rooms)	119	26,775	Assumed with restaurant for most conservative estimate. First floor would also include lobby, restaurant, meeting rooms, etc., comprising a total of approximately 20,000 sq ft. Average hotel room size of 400 sq ft. Given that along with 100,000 sq ft in room space yields a total of 250 rooms total has been rounded down to 225 to account for some hallway space.
DISTRICT TOTAL				599,845	
Campus	Commercial Office (Campus Cluster)	800,000 sq ft	119 per 1,000 sq ft	95,200	
DISTRICT TOTAL				95,200	
First Responders Training Center	First Responder Training Center Facilities	N/A	N/A	N/A	Due to the composition off the training center as predominantly outdoor training areas, a park-like restroom has been assumed using the campground per space estimate. Assumed due to the space, that it is inclusive of at least 3 people for multiple uses per day. Therefore, one campground space equates to approximately 4 restroom stalls and sinks. Two spaces have been assumed for this use.
DISTRICT TOTAL				0	

Greenways, Citywide Parks, and Tournament Facilities	Citywide Park – Willow Pass Park Extension	Space (total of 4)	144	576	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Size of this park is 45 acres so assumed a total of 2 restroom facilities for the park. Each facility would be comprised of the equivalent of 2 stalls for both men/women.
	Citywide Park – Tournament Facility	Space (total of 8)	144	1,152	Based on campground - per space due to lack of other similar land uses Nelson 2004. Assumed that one campground space is inclusive of at least 3 people for multiple uses per day. Therefore, one campground space can be assumed to be approx. 4 restroom stalls and sinks. For the tournament facility which is largely comprised of ball fields and similar, assumed a total of 8 spaces.
	Citywide Park – Ad to Tournament Facility	Space (total of 8)	144	1152	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Size of this park is 100 acres so assumed a total of 4 restroom facilities for the park. Each facility would be comprised of the equivalent of 2 stalls for both men/women.
	Mt. Diablo Golf Course	Space (total of 2)	144	288	Based on campground - per space; assumed due to the space, it is inclusive of at least 3 people for multiple uses per day. Therefore, only one campground space for approx.. 4 restroom stalls and sinks. Assumed golf course club house would have the equivalent of two campground spaces.
	Central Greenway	N/A	N/A	--	
	Neighborhood Frame	N/A	N/A	--	
DISTRICT TOTAL				3,168	
Conservation Open Space	Mt. Diablo Creek Corridor	N/A	N/A	N/A	Assumed due to conservation open space that there would be no restrooms.
	Regional Park	N/A	N/A	N/A	Assumed due to conservation open space that there would be no restrooms.
				N/A	
TOTAL				5,496,717	0

Notes:

The estimates above have been based on guidance included in Nelson 2004. Land uses and associated wastewater flow estimates were taken from Table 8-2 Wastewater Treatment by Land Use.

Alternative 1 (Preferred Alternative): Summary of Impervious Site Coverage

Dev District	Tot Appx Acres	Land Uses	Appx Acres	Appx Comm SF	Avg FAR	Site Cov %	Site Cov Acreage
North Concord TOD Core	55	Commercial	38	2,550,000	2.5	0.9	34.2
		Residential - High Density Multi-Unit Housing	14	N/A	N/A	0.8	11.2
		Commercial Office (Class A)	29	2,550,000	3	0.9	26.1
		Commercial Retail (Town Center)	2	50,000	1	0.9	1.8
		Commercial Hotel (Mid-Rise)	7	400,000	2	0.9	6.3
		Res - Hi Density Multi-unit Hsng	14	N/A	N/A	0.8	11.2
		Blance: City Parks and Streets	3	N/A	N/A	0.8	2.4
DISTRICT TOTAL							47.8
North Concord TOD Neighborhoods	90	Commercial Retail (Town Center)	5	150,000	1	0.8	4
		Residential - Moderate, High Density and Mixed Use	79	N/A	N/A	0.8	63.2
		Res – Mod Density Townhomes	27	N/A	N/A	0.8	21.6
		Res – Mod to Hi Density Multi-unit Hsng	29	N/A	N/A	0.8	23.2
		Res – Mixed-Use Multi-unit Hsg	15	N/A	N/A	0.8	12
		Res – Hi Density Multi-unit Housing	8	N/A	N/A	0.8	6.4
		Commercial Retail (Town Center)	5	150,000	1	0.8	4
		Balance: City Parks and Streets	6	N/A	N/A	0.7	4.2
DISTRICT TOTAL							71.4
Central Neighborhoods	180	Commercial Retail (Town Center)	7	100,000	1	0.9	6.3
		Residential - Low, Mod, High Density and Mixed Use	147	N/A	N/A	0.75	112.4
		Res – Mod to Lo Density SF Attach Hsng	26	N/A	N/A	0.6	15.6
		Res – Mod Density Townhomes	108	N/A	N/A	0.8	86.4
		Res – Mod to High Density Multi-unit Hsng	5	N/A	N/A	0.8	4
		Res – Mixed-Use Multi-unit Housing	8	N/A	N/A	0.8	6.4
		Commercial Retail (Town Center)	7	100,000	1	0.9	6.3
		Balance: City Parks and Streets	26	N/A	N/A	0.7	18.2
DISTRICT TOTAL							136.9
Village Centers	70	Commercial Retail (Neighborhood and Mixed Use)	24	350,000	1	0.8	19.2
		Residential - Moderate and Mixed Use	21	N/A	N/A	0.75	16.8
		Commercial Retail (Neighborhood and Mixed Use)	24	350,000	1	0.8	19.2
		Res – Moderate Density Townhomes	11	N/A	N/A	0.8	8.8
		Res – Mixed-Use Multi-unit Housing	10	N/A	N/A	0.8	8
		Balance: City Parks and Streets	45	N/A	N/A	0.7	31.5
DISTRICT TOTAL							67.5

Alternative 1 (Preferred Alternative): Summary of Impervious Site Coverage

Dev District	Tot Appx Acres	Land Uses	Appx Acres	Appx Comm SF	Avg FAR	Site Cov %	Site Cov Acreage
Village Neighborhoods	740	Residential - Low, Moderate	602	N/A	N/A	0.6	365.1
		Res – Lo Density SF Detached Hsng	183	N/A	N/A	0.5	91.5
		Res - Mod to Lo Dens SF Attach Hsng	304	N/A	N/A	0.6	182.4
		Res – Moderate Density Townhomes	114	N/A	N/A	0.8	91.2
		Balance: City Parks and Streets	139	N/A	N/A	0.7	97.3
DISTRICT TOTAL							462.4
Commercial Flex	210	Commercial Office, Retail, Hotel	166	1,700,000	0.2	0.8	148.2
Commercial Flex		Commercial Office (Office Park/R&D)	71	730,000	0.2	0.9	63.9
		Commercial Retail (Regional Retail)	83	850,000	0.2	0.9	74.7
		Commercial Hotel (Business/Ltd Hotel)	12	120,000	0.2	0.8	9.6
		Balance: Streets	44	N/A	N/A	1	44
DISTRICT TOTAL							192.2
Campus	120	Commercial Office (Campus Cluster)	110	800,000	0.2	0.5	55
		Balance: Streets	10	N/A	N/A	1	10
DISTRICT TOTAL							65
First Responders Training Center	80	First Responder Training Center Facilities	80	N/A	N/A	0.6	48
DISTRICT TOTAL							48
Greenways, Citywide Parks, and Tournament Facilities	786	Parks, Mt. Diablo Golf Course, Greenways, Frames	786	N/A	N/A	0.25	215.25
		Citywide Park – Willow Pass Park Extension	45	N/A	N/A	0.25	11.25
		Citywide Park – Tournament Facility	75	N/A	N/A	0.5	37.5
		Citywide Park – Adj to Tournament Facility	100	N/A	N/A	0.25	25
		Mt. Diablo Golf Course	88	N/A	N/A	0.25	22
		Central Greenway	380	N/A	N/A	0.25	95
		Neighborhood Frame	98	N/A	N/A	0.25	24.5
DISTRICT TOTAL							215.25
Conservation Open Space	2,715	Mt. Diablo Creek Corridor and Regional Park	2715	N/A	N/A	0.05	135.75
	2,715	Mt. Diablo Creek Corridor	178	N/A	N/A	0.05	8.9
		Regional Park	2,537	N/A	N/A	0.05	126.85
DISTRICT TOTAL							135.75
TOTAL	5,046		5,046	6,100,000	N/A	N/A	1442.2

Alternative 2: Summary of Impervious Site Coverage

Dev District	Tot Appx Acres	Land Uses	Appx Acres	Appx Comm SF	Avg FAR	Site Cov %	Site Cov Acreage
North Concord TOD Core	80	Commercial	38	2,550,000	2.5	0.9	34.2
		Residential - High Density Multi-Unit Housing	36	N/A	N/A	0.8	28.8
		Commercial Office (Class A)	29	2,550,000	3	0.9	26.1
		Commercial Retail (Town Center)	2	50,000	1	0.9	1.8
		Commercial Hotel (Mid-Rise)	7	400,000	2	0.9	6.3
		Res - Hi Density Multi-unit Hsng	36	N/A	N/A	0.8	28.8
		Blance: City Parks and Streets	6	N/A	N/A	0.8	4.8
DISTRICT TOTAL							67.8
North Concord TOD Neighborhoods	85	Commercial Retail (Town Center)	5	150,000	1	0.8	4
		Residential - Moderate, High Density and Mixed Use	76	N/A	N/A	0.8	60.8
		Res – Mod Density Townhomes	0	N/A	N/A	0.8	0
		Res – Mod to Hi Density Multi-unit Hsng	3	N/A	N/A	0.8	2.4
		Res – Mixed-Use Multi-unit Hsg	4	N/A	N/A	0.8	3.2
		Res – Hi Density Multi-unit Housing	69	N/A	N/A	0.8	55.2
		Commercial Retail (Town Center)	5	150,000	1	0.8	4
		Balance: City Parks and Streets	4	N/A	N/A	0.7	2.8
DISTRICT TOTAL							67.6
Central Neighborhoods	200	Commercial Retail (Town Center)	7	100,000	1	0.9	6.3
		Residential - Low, Mod, High Density and Mixed Use	163	N/A	N/A	0.75	123.8
		Res – Mod to Lo Density SF Attach Hsng	33	N/A	N/A	0.6	19.8
		Res – Mod Density Townhomes	111	N/A	N/A	0.8	88.8
		Res – Mod to High Density Multi-unit Hsng	5	N/A	N/A	0.8	4
		Res – Mixed-Use Multi-unit Housing	14	N/A	N/A	0.8	11.2
		Commercial Retail (Town Center)	7	100,000	1	0.9	6.3
		Balance: City Parks and Streets	26	N/A	N/A	0.7	18.2
DISTRICT TOTAL							148.3
Village Centers	50	Commercial Retail (Neighborhood and Mixed Use)	24	350,000	1	0.8	19.2
		Residential - Moderate and Mixed Use	19	N/A	N/A	0.75	15.2
		Commercial Retail (Neighborhood and Mixed Use)	24	350,000	1	0.8	19.2
		Res – Moderate Density Townhomes	6	N/A	N/A	0.8	4.8
		Res – Mixed-Use Multi-unit Housing	13	N/A	N/A	0.8	10.4

Alternative 2: Summary of Impervious Site Coverage

		Balance: City Parks and Streets	7	N/A	N/A	0.7	4.9
DISTRICT TOTAL							39.3
Village Neighborhoods	730	Residential - Low, Moderate	602	N/A	N/A	0.6	360.6
		Res – Lo Density SF Detached Hsng	174	N/A	N/A	0.5	87
		Res - Mod to Lo Dens SF Attach Hsng	304	N/A	N/A	0.6	182.4
		Res – Moderate Density Townhomes	114	N/A	N/A	0.8	91.2
		Balance: City Parks and Streets	138	N/A	N/A	0.7	96.6
DISTRICT TOTAL							457.2
Commercial Flex	210	Commercial Office, Retail, Hotel	166	1,700,000	0.2	0.8	148.2
Commercial Flex		Commercial Office (Office Park/R&D)	71	730,000	0.2	0.9	63.9
		Commercial Retail (Regional Retail)	83	850,000	0.2	0.9	74.7
		Commercial Hotel (Business/Ltd Hotel)	12	120,000	0.2	0.8	9.6
		Balance: Streets	44	N/A	N/A	1	44
DISTRICT TOTAL							192.2
Campus	80	Commercial Office (Campus Cluster)	80	800,000	0.2	0.5	40
		Balance: Streets	0	N/A	N/A	1	0
DISTRICT TOTAL							40
First Responders Training Center	0	First Responder Training Center Facilities	0	N/A	N/A	0.6	0
DISTRICT TOTAL							0
Greenways, Citywide Parks, and Tournament Facilities	786	Parks, Mt. Diablo Golf Course, Greenways, Frames	786	N/A	N/A	0.25	215.25
		Citywide Park – Willow Pass Park Extension	45	N/A	N/A	0.25	11.25
		Citywide Park – Tournament Facility	75	N/A	N/A	0.5	37.5
		Citywide Park – Adj to Tournament Facility	100	N/A	N/A	0.25	25
		Mt. Diablo Golf Course	88	N/A	N/A	0.25	22
		Central Greenway	380	N/A	N/A	0.25	95
		Neighborhood Frame	98	N/A	N/A	0.25	24.5
DISTRICT TOTAL							215.25
Conservation Open Space	2,825	Mt. Diablo Creek Corridor and Regional Park	2825	N/A	N/A	0.05	141.25
		Mt. Diablo Creek Corridor	178	N/A	N/A	0.05	8.9
		Regional Park	2,647	N/A	N/A	0.05	132.35
							141.25
TOTAL	5,046		5,046	6,100,000	N/A	N/A	1368.9

Appendix G Record of Non-Applicability (RONA) for Clean Air Act (CAA) Conformity

This page intentionally left blank.

RECORD OF NON-APPLICABILITY (RONA) FOR CLEAN AIR ACT CONFORMITY FOR THE DISPOSAL AND REUSE OF THE NAVAL WEAPONS STATION SEAL BEACH DETACHMENT, CONCORD, CALIFORNIA

This Record of Non-Applicability (RONA) documents the Navy's determination that the requirement to make a Clean Air Act conformity determination does not apply to the proposed action.

BACKGROUND

The U.S. Environmental Protection Agency (EPA) published Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule, in the November 30, 1993, *Federal Register* (40 CFR Parts 6, 51, and 93) and amended 40 CFR Parts 51 and 93 in 2010. The Navy published Clean Air Act Conformity Guidance in July 2013, which is referenced in OPNAVINST 5090.1D (Environmental Readiness Program) and the associated Manual (OPNAV M-5090.1). These publications provide implementing guidance to document Clean Air Act Conformity Determination requirements.

Federal regulations state that no department, agency, or instrumentality of the federal government shall engage in, support in any way, or provide financial assistance for, license or permit, or approve any activity that does not conform to an applicable implementation plan. It is the responsibility of the federal agency to determine whether a federal action conforms to the applicable implementation plan before the action is taken (40 CFR Part 93.150[b]). A federal action is exempt from the requirement to make a conformity determination if the action fits within one of the categories of actions identified at 40 CFR 93.153(c)(2) that have been deemed to result in no emissions increase or an increase in emissions that is clearly *de minimis*. The Navy's proposed action is to transfer former Naval Weapons Station (NWS) Concord lands to the City of Concord.

The requirement to prepare a conformity determination does not apply to a federal action if the action fits within one or more of the exemption categories at 40 CFR 93.153(c)(2). The proposed action fits within the exemption categories described below:

(xiv) Transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of transfer

and

(xix) *Actions (or portions thereof) associated with transfers of land, facilities, title, and real properties through an enforceable contract or lease agreement where the delivery of the deed is required to occur promptly after a specific, reasonable condition is met, such as promptly after the land is certified as meeting the requirements of CERCLA, and where the Federal agency does not retain continuing authority to control emissions associated with the lands, facilities, title, or real properties.*

The Navy closed the former NWS Concord on September 30, 2008, in accordance with Public Law (P. L.) 101-510, the Defense Base Closure and Realignment Act of 1990, as amended in 2005 (DBCRA), and declared 5,028 acres of the Inland Area surplus to the needs of the federal government. In accordance with the DBCRA, the Navy is preparing for disposal or transfer of the surplus property from federal ownership.

More generally, in the preamble to the General Conformity Rule, the EPA stated, "Under the exclusive definition of indirect emissions, Federal land transfers are unlikely to be covered since the Federal agency will not maintain authority over reuse activities on that land. Consequently, Federal land transfers are included in the regulatory list of actions that will not exceed the *de minimis* levels and are thus exempt from the conformity rules." 58 FR 63231 (1993). The proposed action fits squarely within the actions the EPA intended to exempt from the conformity requirement.

PROPOSED ACTION

Action Proponent: U.S. Department of Navy

Location: Former Naval Weapons Station, Seal Beach Detachment (NWS Concord), Concord, California

Proposed Action Name: Disposal and Reuse of the former NWS Concord, Concord, California

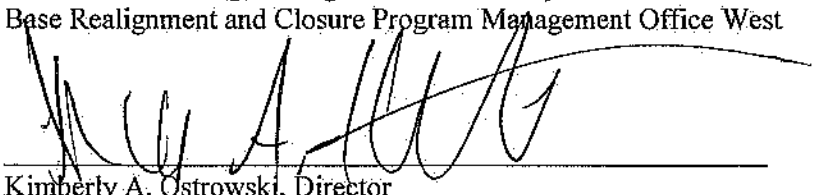
Proposed Action Description: The proposed action is disposal of surplus property at the former NWS Concord, and the subsequent redevelopment of the property by the local community. Reuse of the property would result in indirect air impacts from the construction and operation of the redevelopment plan; however, the Navy will not maintain authority over reuse activities.

Therefore, on the basis of the foregoing, the Navy concludes that the Clean Air Act Conformity Determination requirements do not apply to the proposed action, resulting in this Record of Non Applicability.

RONA APPROVAL

Date RONA Prepared: June 21, 2017

Prepared By: U.S. Department of the Navy
Naval Facilities Engineering Command Headquarters
Base Realignment and Closure Program Management Office West

Signature: 

Kimberly A. Ostrowski, Director
Navy Base Realignment and Closure Program Management Office West

Appendix H Transportation Impact Study

This page intentionally left blank.

TRANSPORTATION IMPACT STUDY

FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD

Concord, California

Prepared for:

Ecology and Environment, Inc.

Prepared by:

Kittelson & Associates, Inc.

155 Grand Avenue, Suite 900
Oakland, California 94612
510.839.1742
www.kittelson.com



By ellenm1 (Flickr: Antioch) [CC-BY-2.0 (http://creativecommons.org/licenses/by/2.0)]

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

MOVING**FORWARD**THINKING™

ERRATA

The following is a correction to the total trips provided in Table 19

Table 1 Daily Person Trips by Mode

From	To	Total	Drive Alone	Shared Ride 2	Shared Ride 3+	Transit	Bicycle	Walk
Alternative 1								
NWS	NWS	~~49,241~~ 49,222	30,529	8,852	3,131	17	267	6,426
NWS	Outside	~~78,267~~ 76,146	53,402	13,819	5,647	2,120	511	647
Outside	NWS	~~125,252~~ 124,489	84,776	25,325	11,487	763	978	1,160
Alternative 2								
NWS	NWS	~~55,420~~ 55,396	33,680	10,274	4,179	23	294	6,946
NWS	Outside	~~100,030~~ 96,825	66,466	18,003	7,377	3,204	808	967
Outside	NWS	~~131,924~~ 131,311	89,281	27,107	12,186	614	927	1,196

Source: Kittelson & Associates, Inc., 2014.
Note: "Transit" includes two categories, "transit-walk," which refers to trips for which the transit rider walks to the transit stop/station, and "transit-drive," which refers to trips for which the transit rider drives to the transit stop/station.

Transportation Impact Study

Former Naval Weapons Station Seal Beach Detachment Concord

Concord, California

Prepared For:
Ecology and Environment, Inc.
368 Pleasantview Drive
Lancaster, NY 14086
(716) 684-8060

Prepared By:
Kittelson & Associates, Inc.
155 Grand Avenue, Suite 900
Oakland, California 94612
(510) 839-1742

Project Principal: Alice Chen

Project No. 12820

April 2016

TABLE OF CONTENTS

1 Executive Summary ES-1
1.1 Findings ES-2
2 Introduction 1
2.1 Project understanding 1
3 Setting 4
3.1 Roadway Network 4
3.2 Study Locations 6
3.3 Existing Traffic Volumes 13
3.4 Existing Operations 22
3.5 Transit 31
3.6 Pedestrian and Bicycle Network 32
4 Transportation Impact Analysis 33
4.1 Model Forecasts 33
4.2 Performance standards 40
4.3 Impact Analysis 42
4.4 Impacts and Mitigation Measures 53
5 References 76

LIST OF TABLES

Table 1 Roadway Segments – Existing Two-Way Peak Hour Volumes 21
Table 2 Freeway mainline segments – Existing Peak Hour Volumes 21
Table 3 Freeway Ramps – Existing Peak Hour Volumes 22
Table 4 General Level of Service Definitions 23
Table 5 Intersection Level of Service Definitions 25
Table 6 Intersection Level of Service – Existing Conditions 25
Table 7 Generalized Peak Hour Two-Way Volumes for Urban Areas 27
Table 8 Existing Peak Hour Roadway Segment Level of Service 27
Table 9 Level of Service and Volume-to-Capacity Ratio for Free-Flow Speed at 70 mph 27
Table 10 Existing Peak Hour Freeway Segment Level of Service 27
Table 11 Level of Service and Density Thresholds for Merge and Diverge Areas 28
Table 12 Existing Peak Hour Level of Service on Freeway Ramps 29
Table 13 Existing Peak Hour Delay Index on Freeways in Central County 30
Table 14 Existing Peak Hour Delay Index on SR 4 in East County 31
Table 15 Existing Peak Hour HOV Lane Utilization on SR 4 n East County 31
Table 16 Daily Vehicle Trip Summaries 37
Table 17 Alternative 1 and Alternative 2 Daily Vehicle Trip Summaries by TAZ 38
Table 18 Trip Distribution 39
Table 19 Daily Person Trips by Mode 39
Table 20 Intersection Level of Service – Cumulative Conditions 43
Table 21 Roadway Level of Service – Cumulative Conditions 46
Table 22 Freeway Mainline Level of Service – Cumulative Conditions (AM Peak Hour) 47
Table 23 Freeway Mainline Level of Service – Cumulative Conditions (PM Peak Hour) 48
Table 24 Freeway Ramp Level of Service – Cumulative Conditions (AM Peak Hour) 49
Table 25 Freeway Ramp Level of Service – Cumulative Conditions (PM Peak Hour) 50
Table 26 Freeway Delay Index – Central County – Cumulative Conditions 51
Table 27 Freeway Delay Index – East County – Cumulative Conditions (SR 4) 51
Table 28 Freeway HOV Lane Utilization – East County – Cumulative Conditions 52
Table 29 Impact Summary 52

LIST OF FIGURES

Figure 1 Alternative 1: Concord Reuse Project Area Plan 2
Figure 2 Alternative 2: Intensified Reuse 3
Figure 3 Study Area 5
Figure 4 Study Intersections and Roadways 11
Figure 5 Study Freeway Mainline Segments and Ramps 12
Figure 6 Existing Lane Configurations and Traffic Control Devices 15
Figure 7 Existing Traffic Conditions, Weekday AM and PM Peak Hours 17
Figure 8 Traffic Analysis Zones (TAZ) Map 36

APPENDICES

Appendix 1 Intersection Lane Configurations and Turning Movement Volumes

Appendix 2 Intersection Level of Service Worksheets

Appendix 3 Intersection Level of Service Worksheets (Mitigated)

Appendix 4 Freeway Ramp Analysis Worksheets

Appendix 5 Location of Impacts

Appendix 6 Intersection Count Sheets

1 EXECUTIVE SUMMARY

This transportation impact study examines the current transportation network and addresses the environmental effects on the future circulation system from implementing the three alternatives of the proposed action (Action) for the former Naval Weapons Station Seal Beach Detachment (former NWS) Concord. The three alternatives are:

- No Action Alternative – Future conditions including projected population and employment growth as well as planned transportation system improvements contained in the latest Contra Costa Transportation Authority (CCTA) travel demand model for Year 2040. The NWS site would not be developed and activities on the NWS site would remain the same as Year 2013 when the counts were performed.

- Alternative 1: Concord Reuse Project Area Plan – Year 2040 conditions plus the addition of the land use and transportation network assumptions associated with Alternative 1, a mix of residential, commercial, institutional and community land uses as well as designated open space on the NWS site.
- Alternative 2: Intensified Reuse – Year 2040 conditions plus the addition of the land use and transportation network assumptions associated with Alternative 2, which contains the same external roadway connections and mix of land use types as Alternative 1 but with increased number of housing units on the NWS site.

The former NWS site is situated on approximately 5,038 acres in the northeast area of Concord, California. It is crossed by State Route 4 (SR 4), east of its interchanges with Interstate 680 (I-680) and State Route 242 (SR 242). Willow Pass Road and Bailey Road also cross the site in a northeasterly direction. The North Concord/Martinez station of the Bay Area Rapid Transit (BART) system is located immediate to the west off Port Chicago Highway. Current use on the abandoned site is limited to livestock grazing.

The effects on the circulation system from implementing the three alternatives were analyzed. The study locations include 28 intersections, five roadway segments, 12 freeway mainline segments, 21 freeway ramps, and four freeway corridors that are considered Routes of Regional Significance. These are locations that would be most likely to be affected by the implementation of the proposed Action.

The results of this study indicate that the proposed Action, under both Alternative 1 and Alternative 2, would contribute to future substandard conditions (i.e., operation below performance standards) at many study locations. Specific mitigation measures, including road-widening, that could address these impacts are presented in this study; however, it should be noted that the City of Concord's policy is to implement Transportation Demand Management (TDM) measures rather than roadway widening or other measures that would increase capacities, in support of regional, state, and national goals and policies addressing the reduction of greenhouse gas emissions through reduced automobile travel and increased transit, bicycle and walk trips. However, the effects of potential TDM measures are not assumed in this analysis, unless the TDM measure, such as enhanced bus service, is inherently captured

within the mode choice assumptions of the demand model. At this stage of planning for the reuse of the NWS site, specific development plans have not been proposed, and identifying and attempting to measure the effect of TDM measures on traffic and transportation impacts would be speculative. Therefore, mitigation in this study is presented for context, in order to illustrate the extent of each impact, rather than as measures that will be required by the City and implemented by specific developers of the NWS site. In addition, some of the mitigation measures presented in this study would be infeasible to implement due to physical limitations, as described below. Impacts on the Routes of Regional Significance (RRS) may be addressed in a regional manner through the Subregional Transportation Mitigation Fee program.

1.1 FINDINGS

1.1.1 No Action

- Nine intersections would operate below the performance thresholds during AM and/or PM peak hours under the No Action alternative.
- The Bailey Road segment east of Concord Boulevard would exceed performance thresholds during the AM peak hour.
- Four freeway mainline segments would exceed performance thresholds during the AM and/or PM peak hours:
    - Freeway mainline segments on westbound SR 4 between Bailey Road and SR 242 are projected to be over capacity in the AM peak hour; and
    - Freeway mainline segments on eastbound SR 4 between Port Chicago Highway and San Marco Boulevard would be over capacity in the PM peak hour.
- Eight freeway ramps serving westbound SR 4 would be below performance thresholds in the AM peak hour, while one ramp serving Interstate 680 and four ramps serving SR 4 would be below performance thresholds in the PM peak hour.
    - The heavy ramp volumes in the peak direction of SR 4 may be attributed to congestion on the freeway mainline segment, which would prompt some motorists to seek alternative routes.
- The delay index along the Central and East county corridors of Interstate 680, SR 4 and SR 242 and the HOV utilization on SR 4 in East county would also be within Multi-modal Transportation Service Objectives (MTSO) standards under the No Action alternative.

1.1.2 Alternative 1: Concord Reuse Project Area Plan

- Twelve intersections would not meet the performance thresholds during AM and/or PM peak hours under Alternative 1 including eight of the nine impacted intersections under the No Action alternative.

  - Mitigation was identified for seven intersections that would fully mitigate the impacts; however, implementation of the measures at two intersections may be infeasible due to physical constraints.
  - Mitigation was identified for the remaining five intersections that would lessen the impacts to better than or the same as the No Action alternative but the results would exceed the performance thresholds after implementation.

- The Port Chicago Highway roadway segment north of Olivera Road would degrade to below performance threshold during both peak hours and no feasible mitigation is identified.
- Four freeway mainline segments on SR 4 would exceed performance standards with Alternative 1 including the westbound segments from Bailey Road to SR 242 in the AM peak hour and the eastbound segments from Port Chicago Highway to Bailey Road in the PM peak hour. Two of these segments would be adversely affected and mitigation has been identified for these locations.
  - Of the four segments, the eastbound segment east of Port Chicago Highway and the two westbound segments between Willow Pass Road and SR 242 would have volume to capacity (v/c) ratios lower than those of the No Action alternative; therefore mitigation has not been identified at these two segments (H and I).
  - Widening SR 4 to increase capacity would improve the freeway mainline conditions to within performance threshold but such improvement has not been planned by the responsible agencies.
  - Ramp metering along the SR 4 and SR 242 corridors, which was implemented in September 2013, may improve freeway mainline operation but the effects are not assumed in the analysis.
- All 13 ramps that were projected to operate below performance standards under the No Action alternative would also be impacted with Alternative 1. Furthermore, three additional ramps along SR 4 would degrade to substandard conditions during the AM or PM peak hours.
  - At six of the impacted ramp locations, the v/c ratios are lower than those of the No Action alternative; therefore no mitigation has been identified.
  - A programmed interchange reconstruction project may improve ramp operations at the SR 4 westbound off-ramp to Willow Pass Road.
  - No improvement has been planned to address the regional corridor-related ramp operation issue.
- The delay indexes along the Central and East county freeway corridors of I-680, SR 4, and SR 242 and the HOV utilization on SR 4 in East county are projected to be within MTSO standards with Alternative 1.

1.1.3 Alternative 2: Intensified Reuse

- Thirteen intersections would operate below the performance thresholds during AM and/or PM peak hours under Alternative 2, all of which are also impacted under Alternative 1, except the Farm Bureau Road and Willow Pass Road intersection.
    -
    - Feasible mitigation was identified for eight intersections that would fully mitigate the impacts; however, implementation of mitigation at three of the locations may not be feasible due to physical constraints.
    - Mitigation was identified for the remaining five intersections that would lessen the impacts to better than or the same as the No Action alternative but the results would exceed the performance thresholds after implementation.
- As with Alternative 1, the Port Chicago Highway roadway segment north of Olivera Road would degrade to below performance threshold during both peak hours and no feasible mitigation is identified.
- All four freeway mainline segments that would exceed performance standards under Alternative 1 would also be impacted with Alternative 2. Three of the segments (I, J, and K) would be adversely affected.
    - Of the four impacted segments, the v/c ratio at the westbound segment east of SR 242 would be lower than that of the No Action alternative. Therefore no mitigation has been identified for SR 4 segment east of SR 242 (H).
    - Widening SR 4 to increase capacity would improve the conditions to within performance threshold but such improvement has not been planned.
    - Ramp metering along the SR 4 and SR 242 corridors, which was implemented in September 2013, may improve freeway mainline operations but the effects are not assumed in the analysis.
- Similar to Alternative 1, all 15 ramps along SR 4 as well as the Interstate 680 northbound off-ramp to Willow Pass Road would experience substandard conditions with Alternative 2.
    - The v/c ratio is the same or lower than that of the No Action alternative at four of the impacted freeway ramps (Willow Pass Road off ramp from northbound I-680 (#1), Port Chicago Hwy off-ramp from eastbound SR 4 (#7), Port Chicago Hwy off-ramp from westbound SR 4 (#11), and Willow Pass Rd on-ramp to westbound SR 4 (#12)therefore no mitigation has been identified.
    - A programmed interchange reconstruction project may improve ramp operations at the SR 4 westbound off-ramp to Willow Pass Road.
    - No improvement has been planned to address the regional corridor-related ramp operation issue.

- The delay indexes along the Central and East county freeway corridors of I-680, SR 4, and SR 242 and the HOV utilization on SR 4 in East county are projected to be within MTSO standards with Alternative 2.

2 INTRODUCTION

This transportation impact study examines the current transportation network and addresses the environmental effects on the future circulation system from implementing the proposed action (Action) for the former Naval Weapons Station Seal Beach Detachment (former NWS) Concord.

2.1 PROJECT UNDERSTANDING

The former NWS site is situated on approximately 5,038 acres in the northeast area of Concord, California. It is crossed by State Route 4 (SR 4), east of its interchanges with Interstate 680 (I-680) and State Route 242 (SR 242). Willow Pass Road and Bailey Road also cross the site in a northeasterly direction. The North Concord/Martinez station of the Bay Area Rapid Transit (BART) system is located immediately west of the site off Port Chicago Highway. Current use on the site is primarily limited to livestock grazing.

In 2007, the project area was designated as surplus property by the Navy; thereby initiating the process to prepare the site for closure and reuse as part of the Defense Base Closure and Realignment Act of 1990, as amended in 2005. This study assesses the potential transportation-related issues associated with two action alternatives identified for the reuse of the site as well as a "no action alternative." Alternative 1: Concord Reuse Project Area Plan is consistent with the 2012 Concord Reuse Project Area Plan prepared by the City of Concord. This alternative includes a mix of residential, commercial, institutional and community land uses as well as designated open space. Alternative 2: Intensified Reuse contains the same mix of uses, with increased number of housing units but the same amount of employment and college students. The two alternatives are graphically illustrated in Figure 1 and Figure 2. The No Action alternative assumes that no new actions would occur (i.e. the site would maintain at its current state).

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\December_03_2013\Alternative1.mxd

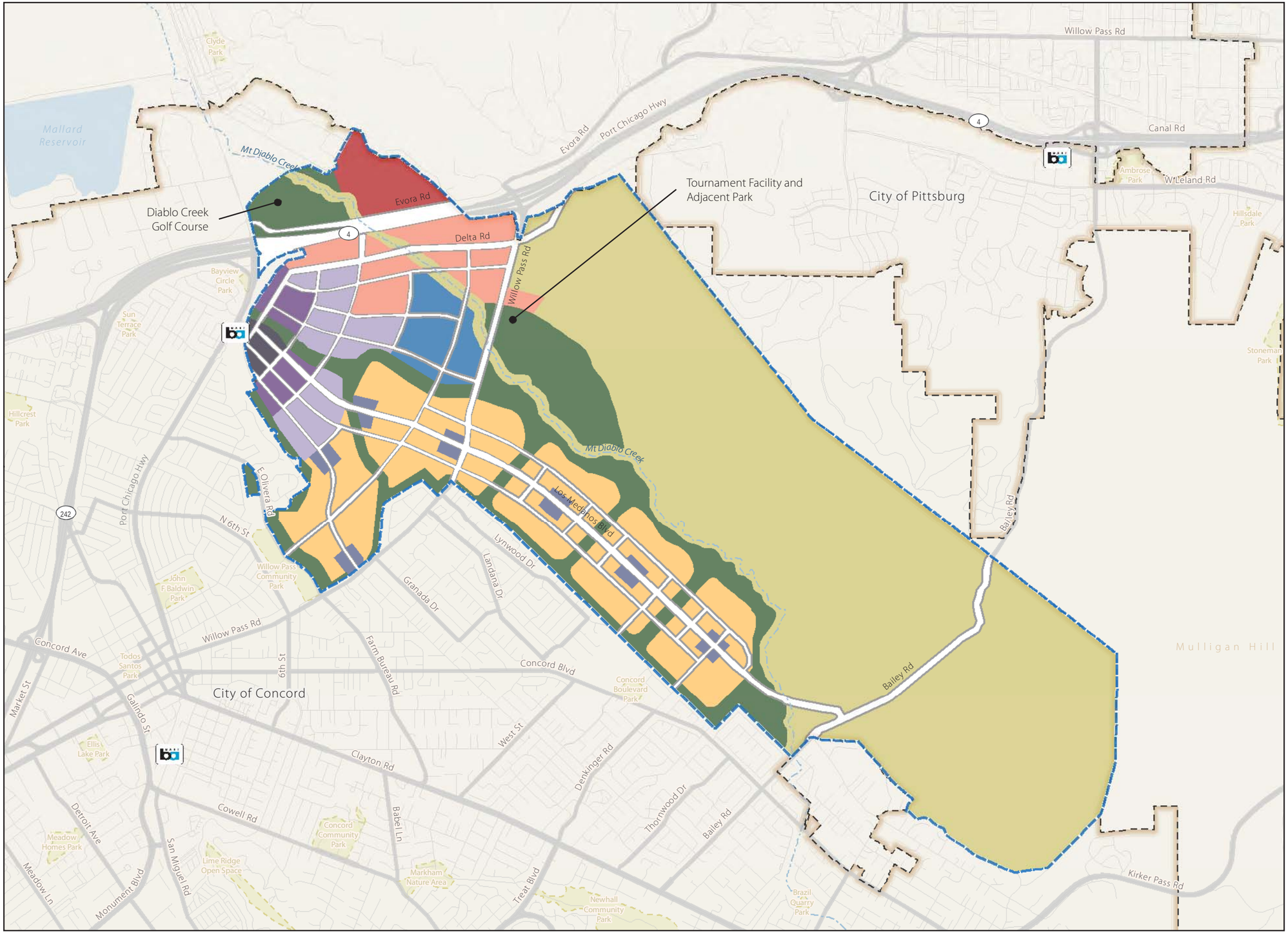


Figure 1

Alternative 1: Preferred Alternative

Former NWS Concord

Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody

***Alternative 1 Development Districts**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- First Responder Training Center
- Greenways, Citywide Parks and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Roadways
- Village Center
- Village Neighborhood

*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\December_03_2013\Alternative2.mxd

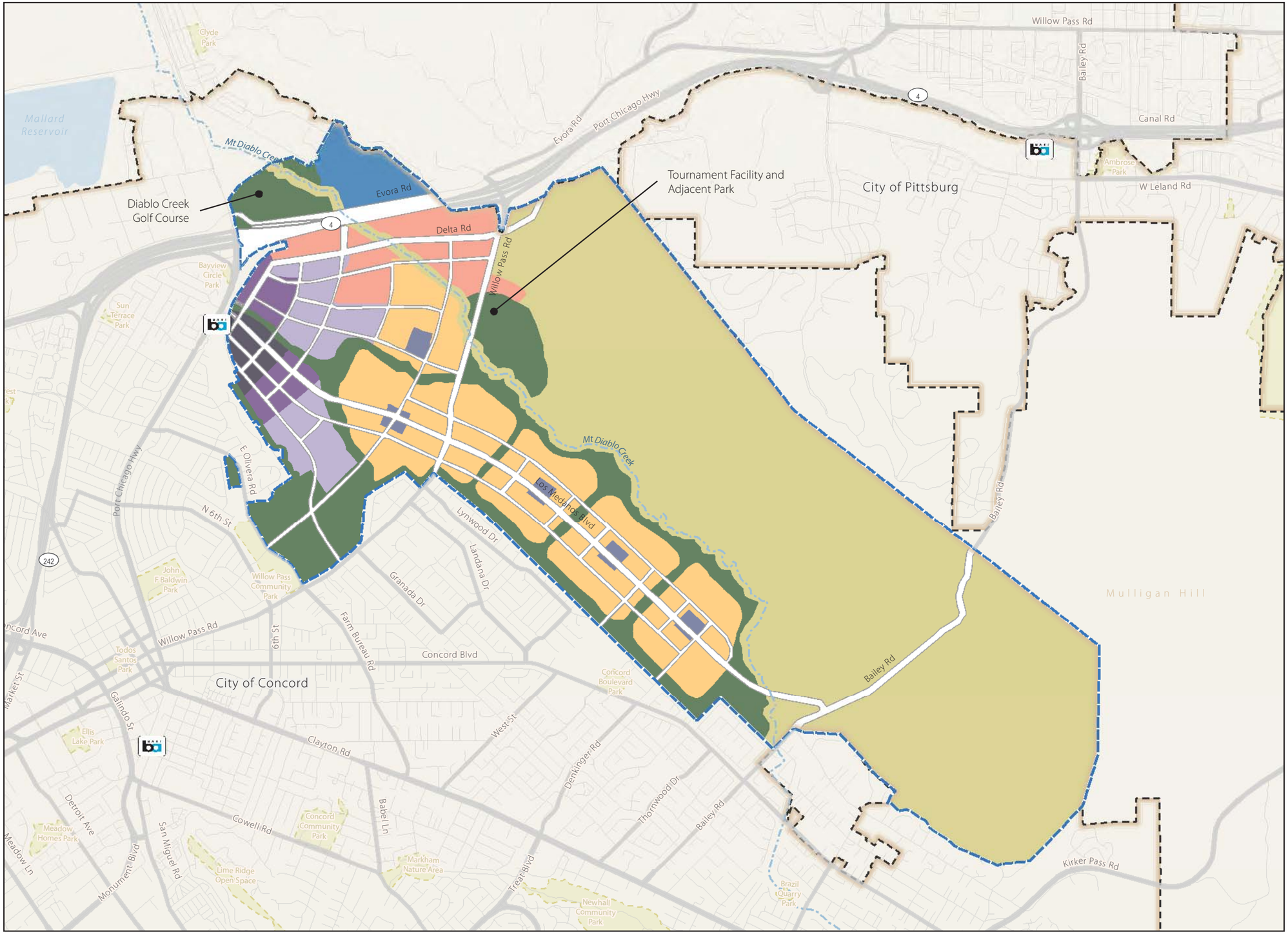


Figure 2

Alternative 2: Intensified Reuse

Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Waterbody
- Local Park

***Alternative 2 Land Use Categories**

- Campus
- Central Neighborhood
- Commercial Flex
- Conservation Open Space
- Greenways, Citywide Parks and Tournament Facilities
- North Concord TOD Core
- North Concord TOD Neighborhood
- Roads
- Village Center
- Village Neighborhood

*Development district areas shown on this map are representative, and reflect a total developable area rather than precise locations of the areas that would be subject to ground disturbance during construction activities.

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010

3 SETTING

The transportation-related context in the study area involves regional and local components of the roadway network as well as transit services and pedestrian and bicycle facilities.

3.1 ROADWAY NETWORK

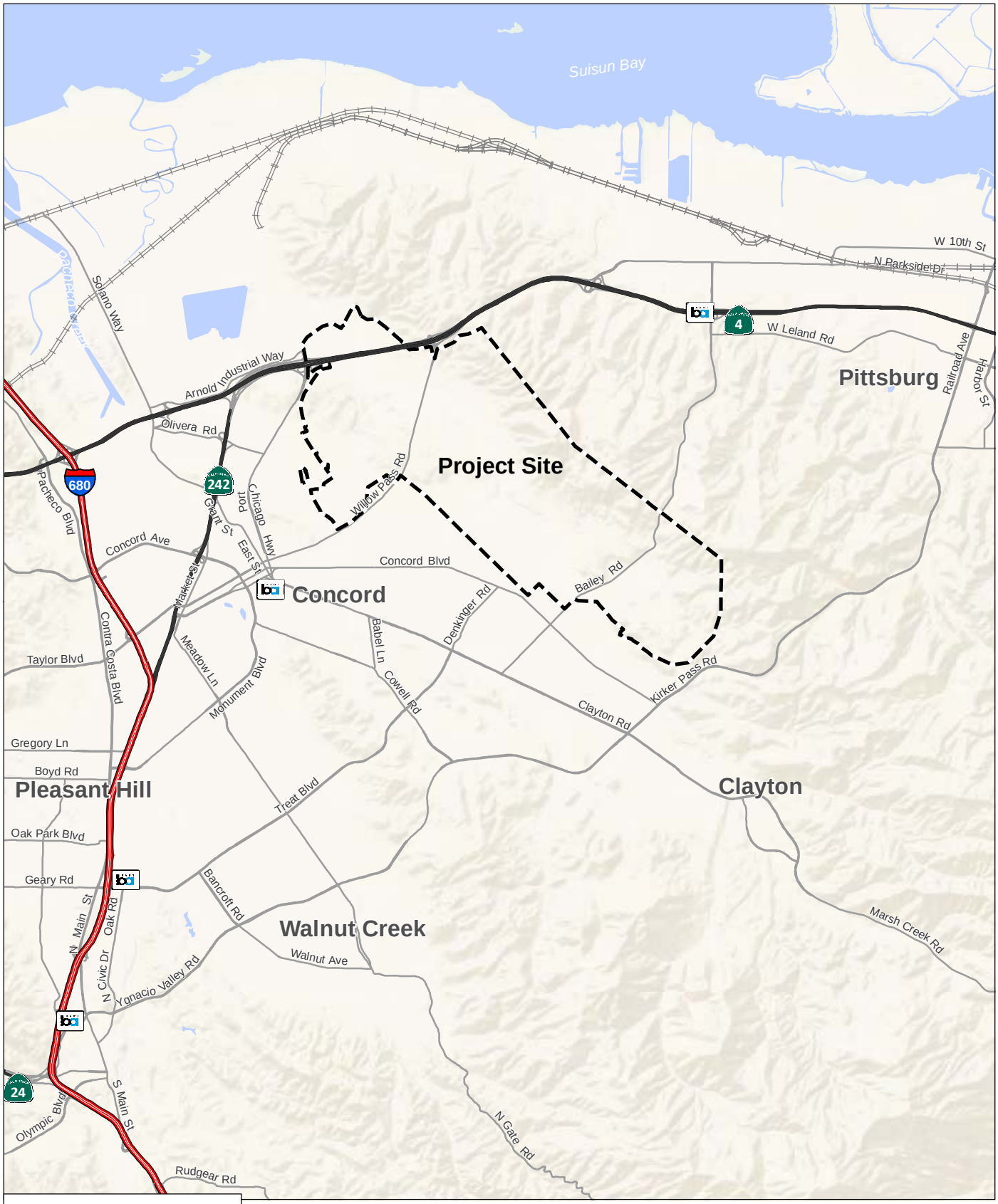
The roadway network in the study area is comprised of the freeway system that serves Central and East Contra Costa County, which are two of the four sub-regions of Contra Costa County, and an extensive street system made up of arterial and local roads. Certain roadways, such as all freeways in the county and some arterial roads, have been designated as Routes of Regional Significance (RRS) in the respective sub-regional Action Plan for Routes of Regional Significance, recognizing their importance to the region's circulation network. The roadway network of the study area is graphically presented in Figure 3.

3.1.1 Freeways

State Route 4 (SR 4) is a major east-west route that spans from just west of Interstate 80 (I-80) in Hercules near the San Pablo Bay east to State Route 99 in Stockton in the Central Valley of California. In the study area, it runs through the NWS site in the northern region of Concord. SR 4 varies from a four-lane divided highway (east of I-680), to a six-lane highway (east of Arnold Industrial Way), to a nine-lane highway (east of Willow Pass Road), and then returns to a four-lane highway at Railroad Avenue in Pittsburg. The NWS site has access to SR 4 from Port Chicago Highway and Willow Pass Road.

Interstate 680 (I-680) is a major north-south freeway that spans across the Bay Area region north to I-80 in Fairfield and south to U.S. Highway 101 (US 101) in San Jose. In Concord, it runs along the west side of the city and intersects with SR 4 in unincorporated Contra Costa County. The number of lanes on I-680 in the study area varies from seven lanes north of SR 4 to 12 lanes north of Monument Boulevard.

State Route 242 (SR 242) is a main north-south route serving central Concord. The six-lane highway extends between I-680 to the southwest and SR 4 to the northwest of the NWS site. Direct ramp accesses are provided on Olivera Road, Concord Avenue and Clayton Road.



Study Area

Figure **3**

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

H:\projfile\12820 - Concord NWS EIS\gis\03_Study Area.mxd - jsommerville - 3:12 PM 5/19/2014

3.1.2 Key Roadways

Willow Pass Road is one of two existing roadways that cut across the NWS site. It consists of two distinct segments. The western segment spans between I-680 in Pleasant Hill and Evora Road just north of SR 4 in Concord, crossing through the NWS site. West of I-680, it continues as Sunvalley Boulevard. The eastern segment extends from SR 4 northeast to central Pittsburg, where it continues as W. 10th Street. South of SR 4, it is named San Marco Boulevard.

Bailey Road, the second of the two roadways that cut across the NWS site, extends from Willow Pass Road in Pittsburg, through the site, and terminates at Clayton Road in Concord. The portion of Bailey Road in Pittsburg is designated as a RRS.

Concord Boulevard stems from Clayton Road just east of SR 242 and continues eastward south of the southwest boundary of the NWS site to just past Kirker Pass Road, where it continues as Oakhurst Drive.

Port Chicago Highway is a semi-circular route that runs from Clayton Road in central Concord, north past the western boundary of the NWS site and SR 4, then eastward through unincorporated Contra Costa County to terminate at Willow Pass Road in Pittsburg.

Kirker Pass Road/Railroad Avenue/Ygnacio Valley Road is a major corridor extending between Pittsburg to the northeast and Walnut Creek to the southwest of the NWS site. The segment in Pittsburg is called Railroad Avenue. It becomes Kirker Pass Road as it traverses through unincorporated Contra Costa County and Concord southeast of the NWS site. South of Clayton Road in Concord, the name changes to Ygnacio Valley Road.

Treat Boulevard runs almost parallel with Ygnacio Valley Road from Clayton Road to North Main Street west of I-680 where it becomes Geary Road and continues through Pleasant Hill. North of Clayton Road, it becomes Denkinger Road and terminates at the site boundary. Treat Boulevard and Geary Road are designated as RRS.

3.2 STUDY LOCATIONS

A number of intersections, roadway segments, freeway mainline segments, and freeway ramps are selected for analysis in this study. The study locations were selected based on comments received during the scoping period for the Action and findings from previous studies performed by the City of Concord, specifically, the 2012 Concord Reuse Project Area Plan EIR Addendum (2012 Area Plan EIR Addendum), the 2010 Concord Community Reuse Project Final EIR (2010 Reuse Plan EIR), and the 2008 Concord Community Reuse Plan DEIR (2008 CCRP DEIR).

Locations analyzed in the 2010 Reuse Plan EIR served as the starting point of the study location selection process as the locations were well vetted through the City of Concord's public outreach

effort. The 2010 Reuse Plan EIR study locations were selected based on extensive feedback on the 2008 CCRP DEIR from the public and other agencies and jurisdictions. Locations analyzed in the 2008 CCRP DEIR were selected based on discussions with and review by the City Traffic Engineer, and included consideration of intersections at which 25 or more project trips would be added, regional routes to which 50 or more trips would be added, and freeways to which 50 or more project trips would be added, in accordance with CCTA and City guidelines.

Alternative 1 is based on the land use and roadway network assumed on the NWS site in the 2012 Area Plan EIR Addendum, which in turn represents a refinement of the land use and roadway network assumed for the Preferred Alternative in the 2010 Reuse Plan EIR. However, because the locations studied in the 2012 Area Plan EIR Addendum were a subset of those studied in the 2010 Reuse Plan EIR, the 2010 Reuse Plan EIR provided more locations to be considered as study locations for the proposed Action.

To narrow down the number of study locations from those in the 2010 Reuse Plan EIR to key locations for this study, the following three factors were taken into consideration:

- Locations that would operate below the level of service (LOS) thresholds[1] and worse than Existing Conditions under the Preferred Alternative in the 2010 Reuse Plan EIR
- Intersections that would operate within 0.05 volume-to-capacity ratio (v/c) of the LOS thresholds under the Preferred Alternative in the 2010 Reuse Plan EIR
- Intersections specifically mentioned in scoping comments for the proposed Action, such as a number of intersections along Concord Boulevard.

Each of these considerations is described in more detail as follows:

Locations that would operate below performance thresholds and worse than Existing Conditions are not necessarily locations identified to have significant impacts in the respective analyses. In some instances, the project would improve the level of service or would reduce the v/c as compared to future no project (no action) conditions. The proposed study locations include all locations that meet the above criteria in the 2010 Reuse Plan EIR, not only those that have been identified to have significant impacts.

Intersections that would operate within 0.05 v/c of the performance thresholds in the 2010 Reuse Plan EIR were also selected for inclusion in the analysis. While these locations were not shown to

[1] The 2010 Reuse Plan EIR established performance thresholds to determine whether the added project traffic would result in significant impacts. These findings from the 2010 Reuse Plan EIR were considered in the choice of study locations.

operate below standards, their v/c ratios were close enough to the thresholds so that they could potentially be exceeded under the proposed Action. Their inclusion provides a buffer to ensure locations that could potentially be adversely impacted were studied.

Finally, a number of intersections along Concord Boulevard were specifically identified as locations of concern through the scoping process for this Action. To ensure such concerns are addressed, those intersections are also included for analysis.

For freeway mainline segments, the selection considered the volumes on freeway mainline segments (ranging from 2,150 to almost 10,000 vehicles) and performance thresholds used to determine significance.. As previously stated, the 2008 CCRP DEIR and the 2010 Reuse Plan EIR freeway analysis segments were selected where 50 or more project trips were added. The selection of freeway mainline segments for this study was based on review of the analysis for the 19 freeway mainline segments from the 2010 Reuse Plan EIR and selection of locations that were impacted or were approaching the performance thresholds.

The selection of ramp locations for this study was based on a subset of the 40 ramps analyzed in the 2010 Reuse Plan EIR that were found to exceed performance thresholds. Low capacity facilities where performance thresholds were not exceeded in the 2010 Reuse Plan EIR were screened out through this selection process.

The selection process identified 28 intersections, five roadway segments, 12 freeway mainline segments and 21 freeway ramps for analysis. The study intersections and roadways are graphically shown in Figure 4 and the study freeway mainline segments and ramps in Figure 5.

A similar approach was used to select study locations on Routes of Regional Significance (RRS) based on the relevant performance metrics, specifically Multimodal Transportation Service Objectives (MTSO), as specified in the Action Plans for Routes of Regional Significance for central and east Contra Costa County, which are described in a latter section.. All 14 intersections on the RRS are part of the 28 intersections as denoted by "*" in the list below. The specific locations and extents of selected freeway segments for the RRS are dictated by the specific MTSO for that corridor.

Intersections

1. Port Chicago Highway/Panoramic Drive
2. Port Chicago Highway/Olivera Road
3. Farm Bureau Road/Willow Pass Road
4. Commerce Avenue/ SR 242 southbound/Concord Avenue
5. West Street & Concord Boulevard
6. Denkinger Road & Concord Boulevard
7. Bailey Road & Concord Boulevard
8. North Main St/Sunnyvale Avenue- southbound Interstate 680 ramps
9. North Main Street/Geary Road*

10. Buskirk Avenue-NB Interstate 680 off ramp/Treat Boulevard
11. Oak Road/Treat Boulevard
12. Bancroft Road/Treat Boulevard*
13. Oak Grove Road/Treat Boulevard
14. NB Interstate 680 off ramp/Ygnacio Valley Road
15. Walnut Avenue-Bancroft Road/Ygnacio Valley Road*
16. Oak Grove Road/Ygnacio Valley Road
17. Ayers Road/Ygnacio Valley Road
18. Willow Pass Road & Evora Road (west) *
19. Willow Pass Road & SR 4 westbound ramps *
20. Willow Pass Road & SR 4 eastbound ramps*
21. Willow Pass Road & Avila Road*
22. Willow Pass Road & Evora Road (east) – SR 4 westbound off ramp*
23. San Marco Boulevard-Willow Pass Road & SR 4 eastbound ramps*
24. San Marco Boulevard & W. Leland Road*
25. Bailey Road & Willow Pass Road*
26. Bailey Road & SR 4 eastbound ramps-BART access*
27. Railroad Avenue & W. Leland Road*
28. Kirker Pass Road & James Donlon Boulevard (future)*

Roadway Segments

A. Ygnacio Valley Road east of Cowell Road
B. Bailey Road east of Concord Boulevard
C. Concord Boulevard west of Denkinger Road
D. Port Chicago Highway north of Olivera Road
E. Kirker Pass Road south of Myrtle Drive

Freeway Mainline Segments

A. I-680 South of Monument Boulevard
B. I-680 North of Monument Boulevard
C. I-680 North of SR 242
D. I-680 North of Willow Pass Road
E. I-680 North of Concord Avenue
F. I-680 North of SR 4
G. SR 242 North of Interstate 680
H. SR 4 East of SR 242
I. SR 4 East of Port Chicago Highway
J. SR 4 East of Willow Pass Road
K. SR 4 East of San Marco Boulevard
L. SR 4 East of Railroad Avenue

Freeway Ramps

Interstate 680

1. I-680 Willow Pass Road northbound off-ramp
2. I-680 Concord Avenue westbound to northbound on-ramp

3. I-680 Willow Pass Road eastbound to southbound on-ramp

State Route 242

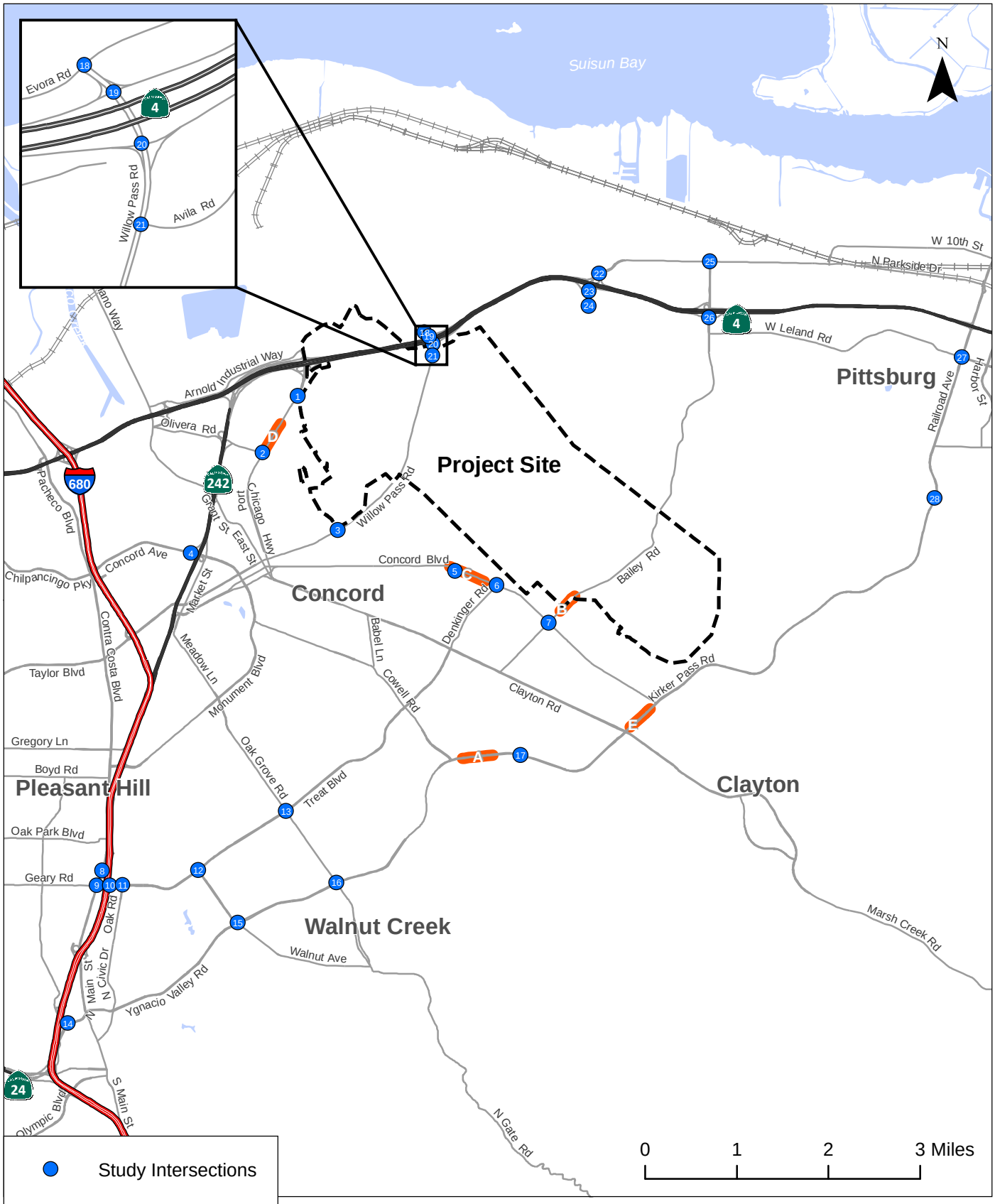
4. SR 242 Clayton Road northbound off-ramp
5. SR 242 Concord Avenue eastbound to northbound on-ramp
6. SR 242 Clayton Road southbound on-ramp

State Route 4

7. SR 4 Port Chicago Highway eastbound off-ramp
8. SR 4 Port Chicago Highway eastbound on-ramp
9. SR 4 Willow Pass Road eastbound off-ramp
10. SR 4 Port Chicago Highway westbound on-ramp
11. SR 4 Port Chicago Highway westbound off-ramp
12. SR 4 Willow Pass Road westbound on-ramp
13. SR 4 Willow Pass Road westbound off-ramp
14. SR 4 San Marco Boulevard eastbound off-ramp
15. SR 4 Southbound San Marco Boulevard westbound on-ramp
16. SR 4 Northbound San Marco Boulevard westbound on-ramp
17. SR 4 Northbound San Marco Boulevard eastbound on-ramp
18. SR 4 San Marco Boulevard westbound off-ramp
19. SR 4 Southbound Bailey Road eastbound off-ramp
20. SR 4 Bailey Road westbound on-ramp
21. SR 4 Railroad Avenue westbound on-ramp

MTSO Freeways

1. State Route 4 within Central Contra Costa County
2. State Route 4 within East Contra Costa County
3. Interstate 680 within Central Contra Costa County
4. State Route 242 within Central Contra Costa County

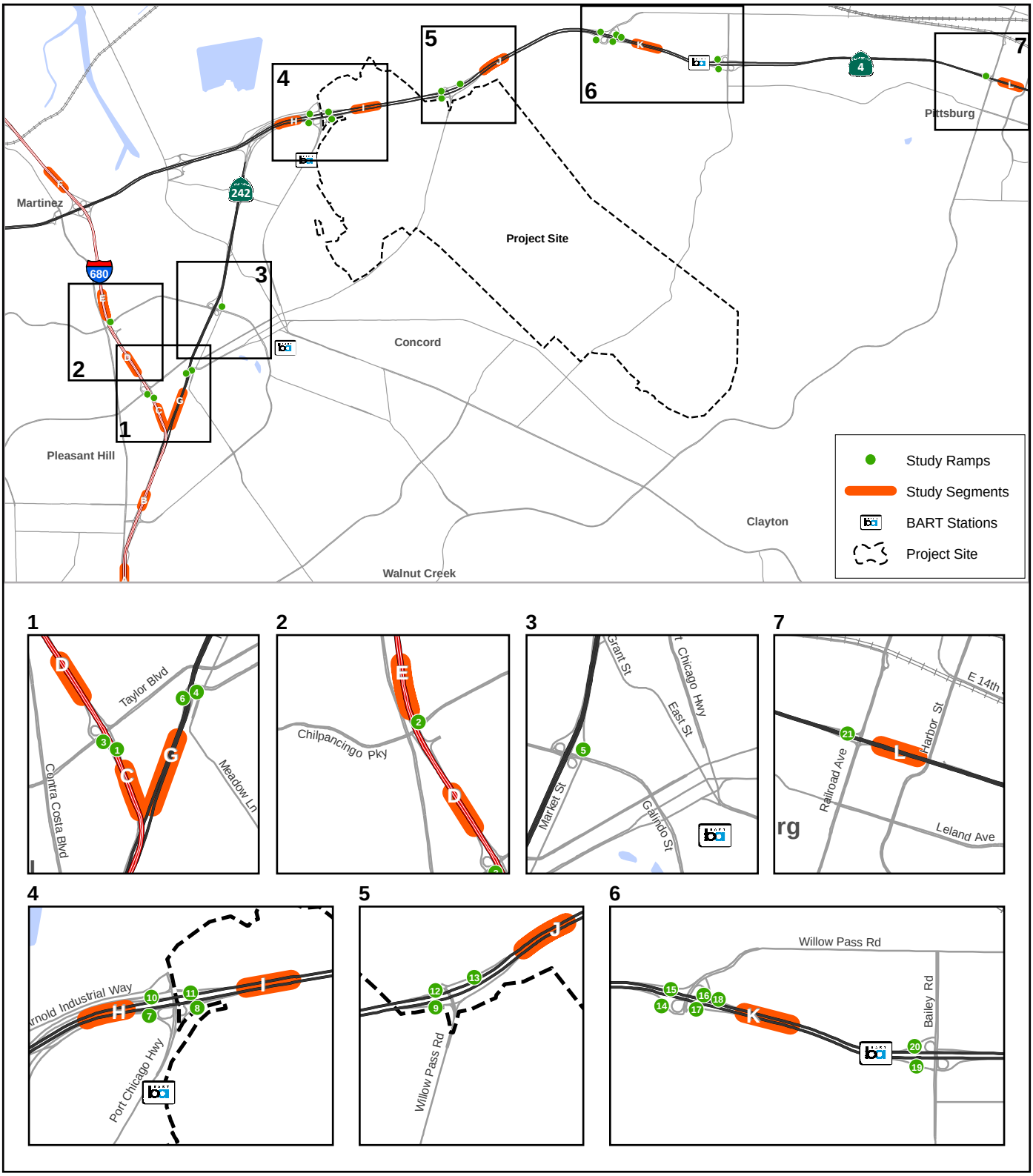


Study Intersections and Roadways

Figure **4**

H:\profile\12820 - Concord NWS EIS\gis\04_Study Intersections and Roadways.mxd - rona - 10:57 AM 5/5/2014

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



Study Freeway Segments and Ramps

Figure **5**

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

H:\profile\12820 - Concord NWS EIS\gis\04_Study Intersections and Roadways.mxd - rona - 10:57 AM 5/5/2014

3.3 EXISTING TRAFFIC VOLUMES

Existing traffic volumes for intersections, roadways, freeway mainline segments and ramps were collected or compiled from available sources in order to establish a basis for analysis in this study.

Intersection turning movement volumes at the study intersections were collected for the morning (AM) and afternoon (PM) peak commute periods in June 2013. These mid-week weekday volumes are intended to represent typical weekday traffic conditions. Seasonal and weekend traffic counts were not considered given the nature of the proposed uses and the programmatic nature of this analysis.[2] The AM peak commute period typically occurs between 7 AM and 9 AM and the PM peak commute period occurs between 4 PM and 6 PM. The counts were collected at 15-minute intervals during the two-hour peak period and were used to calculate the peak hour factor (PHF) for the analysis. The highest one-hour volumes during the peak morning and afternoon periods were identified for each study location and applied in the analysis. Intersection traffic count sheets are included in Appendix 6.

The overall volumes are lower by approximately 15 percent in the AM peak hour and approximately 9 percent in the PM peak hour than those used in the previous studies done by the City of Concord (as identified in the Study Locations section of this report above). The reduction could be attributed to several factors. The most significant influence is likely to be related to the economic conditions in recent years. Turning movement volumes for the previous studies were mostly collected in 2007 before the economy shifted downward the following year, which strongly affect Concord and Contra Costa County. As a result, business activities and corresponding traffic volumes declined. Even though the economy is recovering, the traffic volumes in 2013 had not yet returned to the peak 2007 levels.

The second factor that may contribute to the lower counts is that most private elementary and high schools in the study area had already recessed for summer vacation on the days of data collection. Further, the data were collected during the last week of public school in the Mount Diablo Unified School District, which serves Concord area. Both these factors would cause trip making patterns to change and affect the traffic volumes particularly in the AM peak period.

It is also noted that, due to equipment failure, counts for four of the intersections were collected on a later date in June after all schools were out on summer holiday or were compiled from data collected in 2010. The volumes at these four intersections were reviewed and adjustments were made as necessary based on approach and departure volumes at adjacent intersections to ensure reasonable traffic flow for consistency with the data at other analysis intersections. The existing geometries are shown in Figure 6 and peak hour volumes are shown in Figure 7.

[2] Weekend and seasonal traffic are typically considered at the project level analysis for uses that would typically generate higher traffic volumes on weekends and seasonally, such as shopping malls and tourist attractions.

Roadway segment volumes were derived from adjacent intersection turning movement volumes where applicable. Where intersection data are not adequate, machine counts on the roadway segments were collected in June 2013. Table 1 presents the existing two-way volumes on the study roadway segments.

Table 1 Roadway Segments – Existing Two-Way Peak Hour Volumes

	Link	Location	No. of Lanes	Volume	
				AM	PM
A	Ygnacio Valley Road	East of Cowell Rd	4	3,074	3,243
B	Bailey Road	East of Concord Blvd	2	924	700
C	Concord Blvd	West of Denkinger Rd	4	1,739	1,926
D	Port Chicago Hwy	North of Olivera Rd	2	1,009	1,223
E	Kirker Pass Road	South of Myrtle Dr	6	2,292	2,323

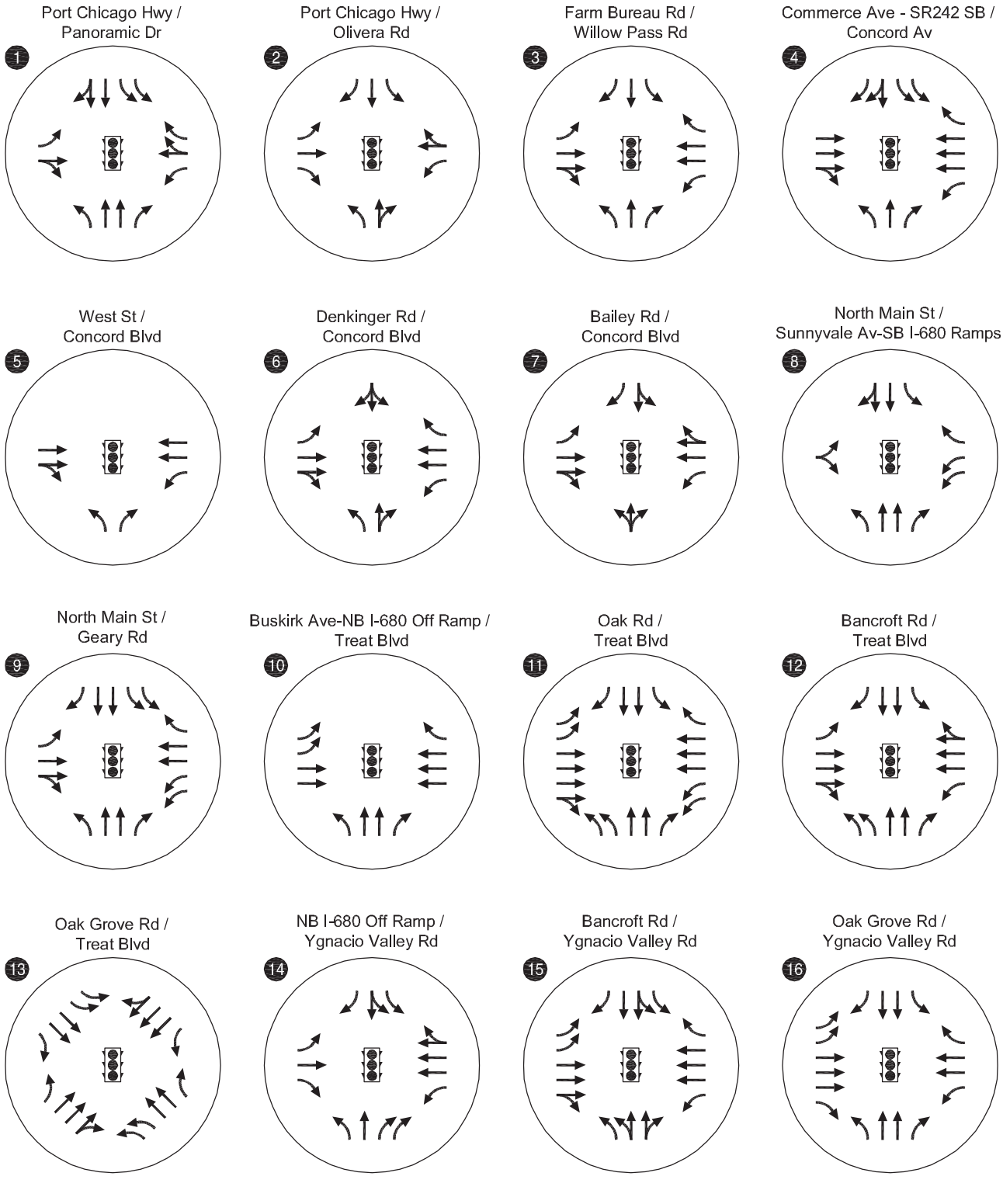
Source: Traffic Counts, 2013, see Appendix 6..

The peak hour freeway mainline segment and ramp traffic volumes were primarily compiled from a number of sources. First, ramp and mainline segment volumes on SR 4 and SR 242 were derived from data collected in February 2013 for the SR 4/SR 242 Ramp Metering Study (Kittelson & Associates 2013).[3] Traffic volumes for the I-680 corridor and other supplemental data were compiled from California Department of Transportation's (Caltrans) Performance Measurement System (PeMS)[4] and from Caltrans' most recently available (2012) estimate of average daily traffic for the freeway mainline and ramps.[5] The freeway mainline segment and ramp volumes are shown in Table 2 and Table 3, respectively.

[3] For the SR 4/SR 242 Ramp Metering Study, counts were collected every 15 minutes for the 3-hour peak period for 3 mid-week days in February 2013. In some cases where recent counts were not available, the volume was extrapolated from historical counts. Some of the mainline counts were actual counts, others are calculated.

[4] For I-680, PeMS data for several ramp and mainline location on I-680 were used to determine the peak hour percentage of average daily traffic by direction.

[5] For I-680 mainline segments, Caltrans 2012 Traffic Volumes (http://traffic-counts.dot.ca.gov/2012all/) provided the most recent average annual daily traffic (AADT) at the time of data collection. These 2012 traffic volumes are comparable to the 2013 volumes since Caltrans does not count each segment every year. In 2014, traffic volumes start to experience a slight increase on some segments of I-680. The peak month AADT was adjusted to peak hour, based on actual hourly counts at two locations from PeMS. For the I-680 ramps, 2012 Caltrans Ramp Volumes (http://traffic-counts.dot.ca.gov/docs/2012-ramp-vol-district04.pdf), were adjusted to peak hour using PeMs similar to the mainline volumes. A review of the ramp volumes indicates that 2012 represents the latest available count. When compared to 2009 volumes, the results vary with some increases, some decreases.

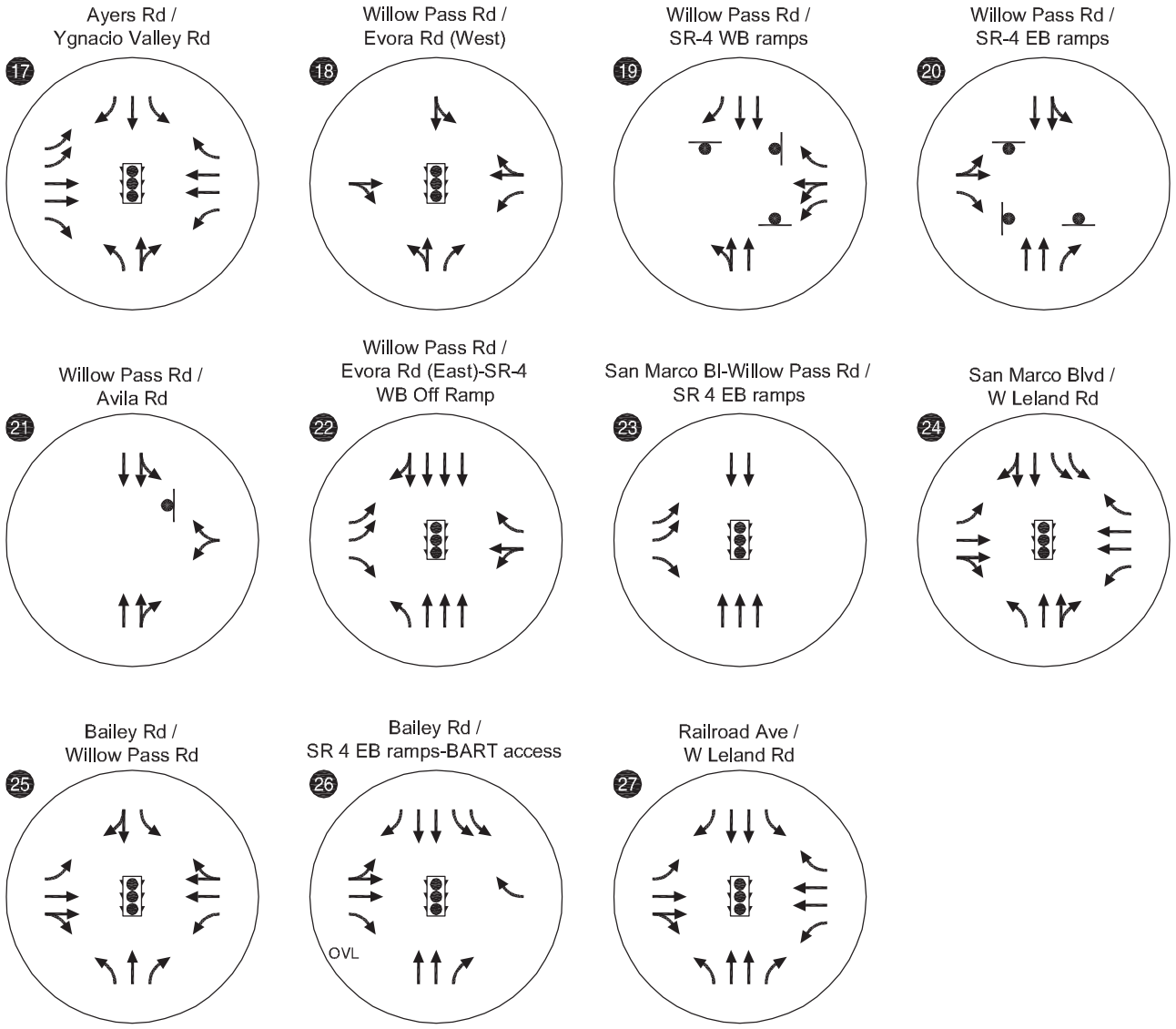


- STOP SIGN

- TRAFFIC SIGNAL

Figure 6A
Existing Lane Configurations and Traffic Control Devices

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:23pm - bcullimore Layout Tab: 1A



OVL - OVERLAP

- STOP SIGN

- TRAFFIC SIGNAL

Figure 6B
Existing Lane Configurations and Traffic Control Devices

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:23pm - bcullimore Layout Tab: 1B

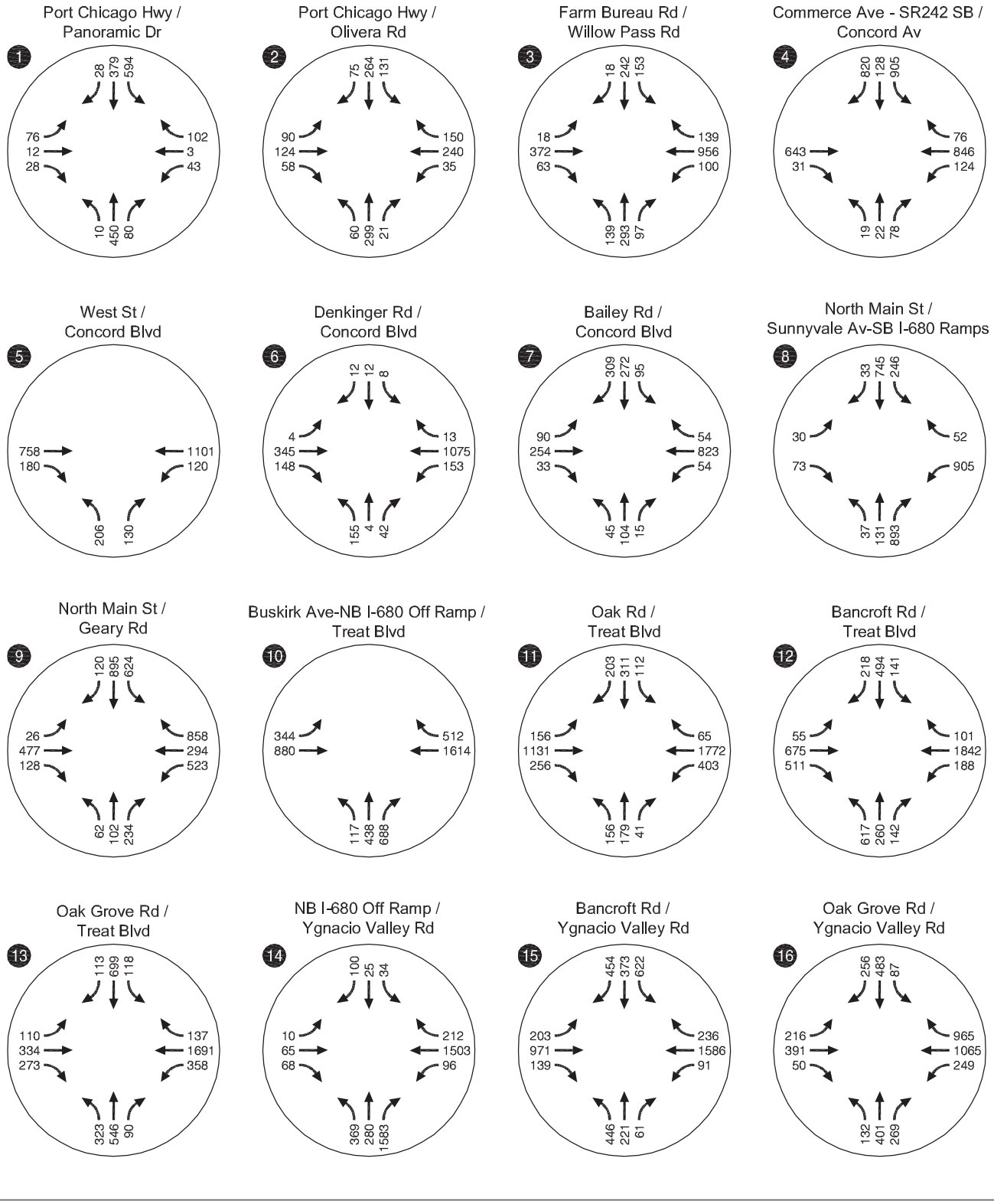


Figure 7A

Existing AM Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:23pm - bcullimore Layout Tab: 2A

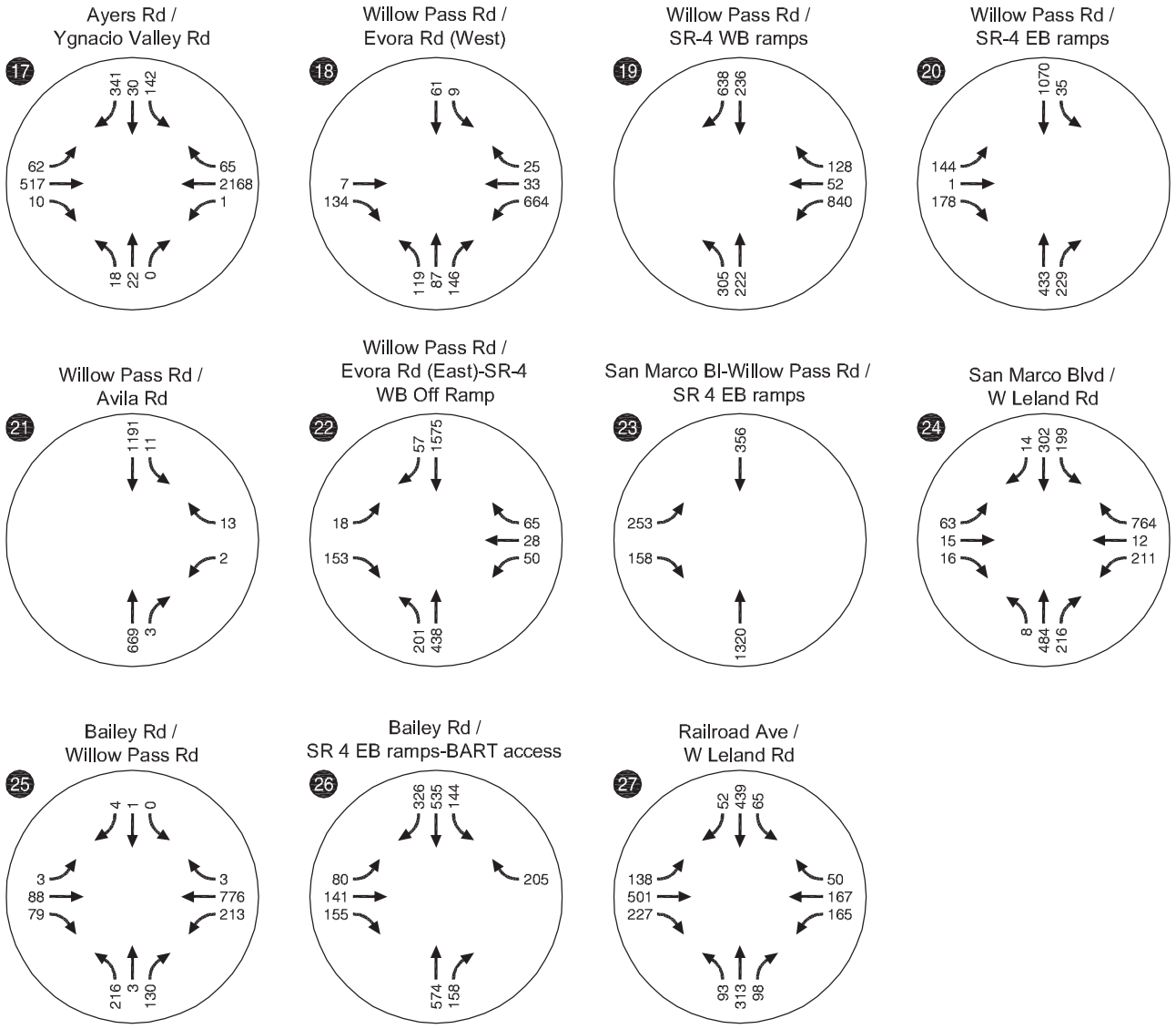


Figure 7B

Existing AM
Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:23pm - bcullimore Layout Tab: 2B

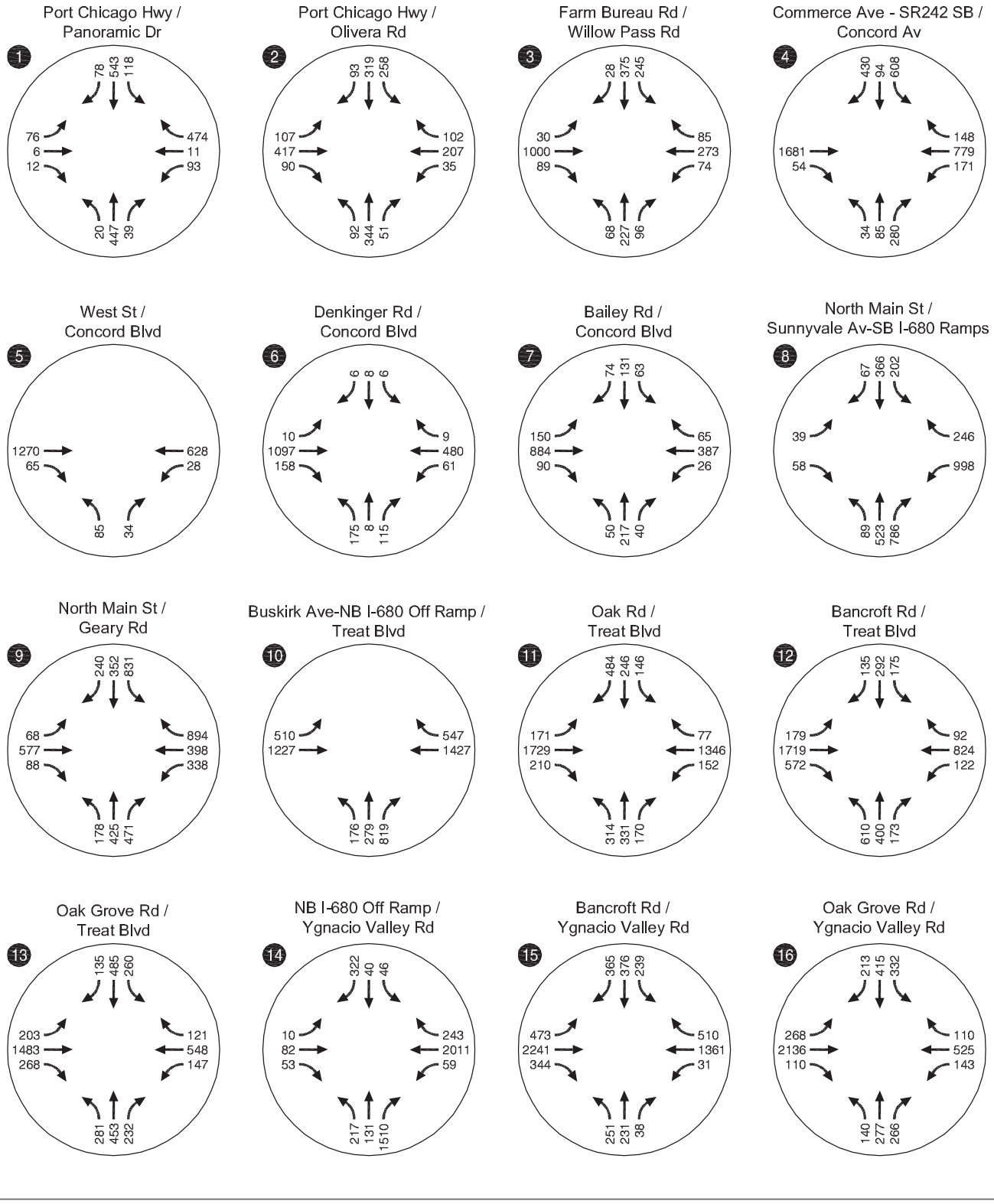


Figure 7C

Existing PM
Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:23pm - bcullimore Layout Tab: 3A

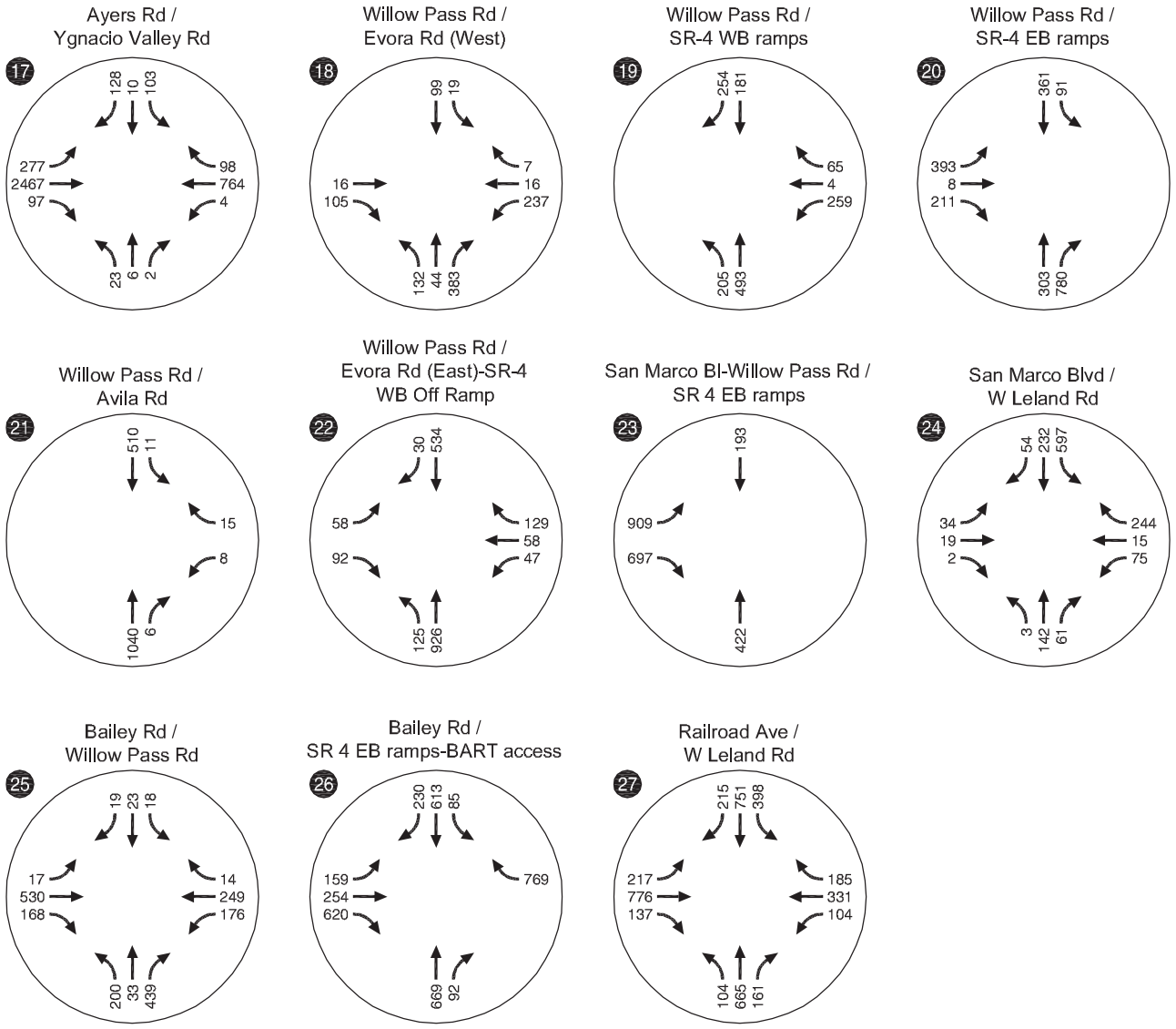


Figure 7D

Existing PM
Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:23pm - bcullimore Layout Tab: 3B

Table 2 Freeway Mainline Segments – Existing Peak Hour Volumes

	Mainline Segment	Direction	Existing Lanes		Existing Peak Hour Volume	
			Freeway	Aux	AM	PM
A	I-680 s/o Monument Blvd	NB	5	1	7,433	9,553
		SB	6	1	8,592	7,194
B	I-680 n/o Monument Blvd	NB	6	0	7,529	9,676
		SB	6	0	8,702	7,286
C	I-680 n/o SR 242	NB	4	0	4,339	5,576
		SB	4	1	5,015	4,199
D	I-680 n/o Willow Pass Rd	NB	4	1	4,275	5,494
		SB	4	1	4,941	4,137
E	I-680 n/o Concord Ave	NB	4	0	4,211	5,412
		SB	4	1	4,867	4,075
F	I-680 n/o SR 4	NB	4	0	3,044	4,821
		SB	4	1	4,969	4,230
G	SR 242 n/o I-680	NB	3	0	3,120	5,329
		SB	3	0	4,684	3,015
H	SR 4 e/o SR 242	EB	4	0	2,150	6,341
		WB	2	0	5,111	2,208
I	SR 4 e/o Port Chicago Hwy	EB	4	0	3,282	7,029
		WB	4	0	6,889	3,007
J	SR 4 e/o Willow Pass Rd	EB	5	0	3,148	7,945
		WB	4	0	8,490	3,359
K	SR 4 e/o San Marco Blvd	EB	4	0	3,025	6,633
		WB	4	0	8,733	3,524
L	SR 4 e/o Railroad Ave	EB	4	0	4,836	4,113
		WB	4	0	2,945	3,225

Source: Caltrans, 2012; Kittelson & Associates, 2013.

Table 3 Freeway Ramps – Existing Peak Hour Volumes

	Ramp	AM	PM
	Interstate 680		
1	Willow Pass Rd NB off-ramp	1,019	1,075
2	Concord Av WB to NB on-ramp	193	374
3	Willow Pass Rd EB to SB on-ramp	441	744
	State Route 242		
4	Clayton Rd NB off-ramp	859	1,420
5	Concord Av EB to NB on-ramp	633	577
6	Clayton Rd SB on-ramp	768	900
	State Route 4		
7	Port Chicago EB off-ramp	620	380
8	Port Chicago EB on-ramp	136	688
9	Willow Pass Rd EB off-ramp	379	604
10	Port Chicago WB on-ramp	218	445
11	Port Chicago WB off-ramp	826	289
12	Willow Pass Rd WB on-ramp	762	477
13	Willow Pass Rd WB off-ramp	519	312
14	San Marco Blvd EB off-ramp	421	1,457
15	SB San Marco Blvd WB on-ramp	1,082	409
16	NB San Marco Blvd WB on-ramp	632	216
17	NB San Marco Blvd EB on-ramp	89	37
18	San Marco Blvd WB off-ramp	113	273
19	SB Bailey Rd EB off-ramp	145	583
20	Bailey Rd WB on-ramp	976	320
21	Railroad Ave WB on-ramp	1,604	853

Source: Caltrans, 2012.

3.4 EXISTING OPERATIONS

Level of service (LOS) describes the operating conditions experienced by motorists. LOS is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort, and convenience. It is analogous to the letter grades in a school report card with LOS A through LOS F, which covers the entire range of traffic operations that might occur. Motorists using a facility that operates at LOS "A" experience very little delay, while those using a facility that operates at LOS "F" will experience intolerably long delays. These conditions are generally described in Table 4. The applicable LOS standards for this analysis are further detailed under the later "Performance Standards" section.

Table 4 General Level of Service Definitions

LOS	Description
A	**Free Flow or Insignificant Delays:** Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.
B	**Stable Operation or Minimal Delays:** The ability to maneuver within the traffic stream is only slightly restricted, and control delay at signalized intersections are not significant.
C	**Stable Operation or Acceptable Delays:** The ability to maneuver and change lanes is somewhat restricted, and average travel speeds may be about 50 percent of the free flow speed.
D	**Approaching Unstable or Tolerable Delays:** Small increases in flow may cause substantial increases in delay and decreases in travel speed.
E	**Unstable Operation or Significant Delays:** Significant delays may occur and average travel speeds may be 33 percent or less of the free flow speed.
F	**Forced Flow or Excessive Delays:** Congestion, high delays, and extensive queuing occur at critical signalized intersections with urban street flow at extremely low speeds.

Source: Highway Capacity Manual, Transportation Research Board, Washington D.C., 2010.

3.4.1 Intersections

Signalized intersections were analyzed using the procedures developed for the Contra Costa Transportation Authority (CCTA).[6] The CCTA LOS concept measures the amount of traffic that a roadway or intersection can accommodate, based on maneuverability, driver dissatisfaction, and delay. This metric is the volume to capacity (v/c) ratio. For unsignalized intersection analysis, the methodology outlined in the Transportation Research Board's Highway Capacity Manual (HCM) 2000 was applied. The metric used for the unsignalized intersection LOS was based on average vehicle delay. The LOS ranges for intersections are shown in Table 5.

[6] Contra Costa Transportation Authority, Technical Procedures Update, July 19, 2006.

Table 5 Intersection Level of Service Definitions

Level of Service	Signalized Intersection Volume-to-Capacity Ratio (v/c)	Unsignalized Intersection Average Vehicle Delay (seconds)
A	0.00 - 0.6	< 10
B	0.61 – 0.70	> 10 and < 15
C	0.71 – 0.80	> 15 and < 25
D	0.81 – 0.90	> 25 and < 35
E	0.91 – 1.00	> 35 and < 50
F	Varies[1]	> 50

Note:
[1] In general, volume-to-capacity ratios cannot be greater than 1.00, unless the lane capacity assumptions are too low. Also, if future demand projections are considered for analytical purposes, a ratio greater than 1.00 might be obtained, indicating that the projected demand would exceed the capacity.
Sources: Technical Procedures Update, Contra Costa Transportation Authority, July 19, 2006.

As the LOS results in Table 6 indicate, three analysis intersections currently operate below acceptable standards:

- Willow Pass Road & SR 4 westbound ramps (#19) – AM peak hour
- Willow Pass Road & SR 4 eastbound ramps (#20) - AM peak hour
- Bailey Road/ SR 4 EB ramps-BART access (#26) - PM peak hour

All three intersections are located at freeway access ramps. Caltrans' peak hour volume warrant is met at both all-way stop-controlled Willow Pass Road and SR 4 ramps intersections.

3.4.2 Roadway Segments

Level of service for roadway links was estimated using a planning methodology based on HCM 2010.[7] This methodology uses peak hour traffic volumes to determine LOS for general planning applications, as shown in Table 7. The capacity of a roadway is based on the number of signalized intersections per mile, number of lanes, presence of left-turn lanes and medians, and other factors from the HCM method. The volumes shown are the upper limit for that service level, therefore a peak hour volume greater than what is shown in LOS E would be LOS F. The existing levels of service for the analysis roadway segment locations are shown in Table 8. The levels of service of all analysis roadway segments are either LOS C or LOS D and fall within performance thresholds.

[7] Florida Department of Transportation, *2013 Quality/Level of Service Handbook*.

Table 6 Intersection Level of Service – Existing Conditions

				AM Peak Hr		PM Peak Hr	
	Intersection	Control	LOS Standard	LOS	v/c or Delay	LOS	v/c or Delay
1	Port Chicago Hwy / Panoramic Dr	Signal	E	A	0.38	A	0.40
2	Port Chicago Hwy / Olivera Rd	Signal	E	B	0.65	B	0.69
3	Farm Bureau Rd / Willow Pass Rd	Signal	E	B	0.66	B	0.67
4	Commerce Av - SR242 SB/ Concord Av	Signal	E	A	0.59	C	0.75
5	West St / Concord Blvd	Signal	E	A	0.53	A	0.49
6	Denkinger Rd / Concord Blvd	Signal	E	A	0.45	A	0.53
7	Bailey Rd / Concord Blvd	Signal	E	A	0.59	A	0.56
8	North Main St / Sunnyvale Av-SB I-680 Ramps	Signal	F	D	0.81	C	0.10
9	North Main St / Geary Rd	Signal	F	B	0.69	C	0.78
10	Buskirk Av-NB I-680 Off Ramp / Treat Blvd	Signal	E	D	0.87	E	0.98
11	Oak Rd / Treat Blvd	Signal	E	A	0.59	C	0.72
12	Bancroft Rd / Treat Blvd	Signal	F	D	0.85	D	0.88
13	Oak Grove Rd / Treat Blvd	Signal	E	C	0.80	B	0.70
14	NB I-680 Off Ramp / Ygnacio Valley Rd	Signal	E	E	0.93	E	0.99
15	Bancroft Rd / Ygnacio Valley Rd	Signal	F	C	0.76	C	0.78
16	Oak Grove Rd / Ygnacio Valley Rd	Signal	F	E	0.91	D	0.85
17	Ayers Rd / Ygnacio Valley Rd	Signal	E	E	0.91	D	0.84
18	Willow Pass Rd / Evora Rd (West)	Signal	mid-D v/c 0.85	B	0.68	A	0.44
19	Willow Pass Rd / SR 4 WB ramps	All-way Stop	mid-D v/c 0.85	**E**	**41.8**	C	16.0
20	Willow Pass Rd / SR 4 EB ramps	All-way Stop	mid-D v/c 0.85	**F**	**70.2**	C	22.1
21	Willow Pass Rd / Avila Rd	1-way Stop	mid-D v/c 0.85	A (B)	0.2 (13.9)	A (C)	0.4 (19.7)
22	Willow Pass Rd / Evora Rd (East)-SR 4 WB Off Ramp	Signal	mid-D v/c 0.85	A	0.46	A	0.29
23	San Marco Blvd-Willow Pass Rd / SR 4 EB ramps	Signal	mid-D v/c 0.85	A	0.39	A	0.50
24	San Marco Blvd / W. Leland Rd	Signal	mid-D v/c 0.85	D	0.85	A	0.33
25	Bailey Rd / Willow Pass Rd	Signal	E	A	0.39	A	0.51
26	Bailey Rd / SR 4 EB ramps-BART access	Signal	E	A	0.41	**F**	**1.11**
27	Railroad Ave / W. Leland Rd	Signal	mid-D v/c 0.85	A	0.55	D	0.81
28	Kirker Pass Rd / James Donlon Blvd (Future)	Signal	E	n.a.	n.a.	n.a.	n.a.

Analysis based on v/c metric for signalized intersection and the delay metric for unsignalized intersections.
V/C denotes Volume-to-Capacity ratio and is used for signalized intersections; average vehicle delay in seconds are used for unsignalized intersections.
Bold font denotes exceedance of performance thresholds.
LOS denotes Level of Service
Source: Kittelson & Associates, 2014.

Table 7 Generalized Peak Hour Two-Way Volumes for Urban Areas

Class I (40 mph or higher posted speed limit)					
Lanes	**Divided**	**Level of Service**			
		B	**C**	**D**	**E**
2	Undivided	*	1,510	1,600	**
4	Divided	*	3,420	3,580	**
6	Divided	*	5,250	5,390	**
8	Divided	*	7,090	7,210	**
Class II (35 mph or slower posted speed limit)					
Lanes	**Divided**	**Level of Service**			
		B	**C**	**D**	**E**
2	Undivided	*	660	1,330	1,410
4	Divided	*	1,310	2,920	3,040
6	Divided	*	2,090	4,500	4,590
8	Divided	*	2,880	6,060	6,130

Note: * cannot be achieved using table input for value defaults.
** not applicable for that level of service grade. Volumes greater than LOS D become LOS F because intersection capacities have been reached.

Source : Florida Department of Transportation, 2012 Generalized Service Volume Tables, December 12, 2012

Table 8 Existing Peak Hour Roadway Segment Level of Service

	Street Name	Location	No. of Lanes	Class	AM Peak Hour			PM Peak		
					Volume	V/C	LOS	Volume	V/C	LOS
A	Ygnacio Valley Rd	East of Cowell Rd	4	I	3,074	0.82	C	3,243	0.51	D
B	Bailey Rd	East of Concord Blvd	2	II	924	0.77	D	700	0.58	D
C	Concord Blvd	West of Denkinger Rd	4	II	1,739	0.57	D	1,926	0.63	D
D	Port Chicago Hwy	North of Olivera Rd	2	I	1,009	0.57	C	1,223	0.69	C
E	Kirker Pass Rd	South of Myrtle Dr	6	II	2,292	0.50	D	2,323	0.51	D

Volume shown is two-way volumes for the roadway segment; V/C denotes Volume-to-Capacity ratio ; LOS denotes Level of Service

3.4.3 Freeway Mainline Segments

Highway Capacity Manual 2010 procedures were used to calculate average daily capacities for each LOS threshold freeway mainline segments as consistent with guidelines established by the California Department of Transportation (Caltrans).[9] The level of service was determined using volume-to-capacity (v/c) ratio given an estimated free-flow speed of 70 mph for all the highway/freeway mainline segments. The v/c ratio is the ratio of flow rate to capacity for a transportation facility. Therefore, as the number of vehicles on a roadway increases to the point of maximum capacity of the roadway, the v/c ratio nears 1.0. Table 9 contains the v/c ratio thresholds for each level of service for freeway mainline segments. The existing level of service on the analysis mainline segments is shown in Table 10.

[9] California Department of Transportation, *Guide for the Preparation of Traffic Impact Studies*, December 2002.

Table 9 Level of Service and Volume-to-Capacity Ratio for Free-Flow Speed at 70 mph

Level of Service	Maximum v/c
A	0.32
B	0.53
C	0.74
D	0.90
E	1.00
F	Demand exceeds capacity

v/c denotes volume-to-capacity ratio
Source: Highway Capacity Manual 2010

Table 10 Existing Peak Hour Freeway Mainline Segment Level of Service

Mainline Segment		Direction	AM Peak Hour		PM Peak Hour	
			v/c	LOS	v/c	LOS
	Interstate 680					
A	I-680 s/o Monument Blvd	NB	0.64	C	0.82	D
		SB	0.62	C	0.52	B
B	I-680 n/o Monument Blvd	NB	0.58	C	0.75	D
		SB	0.67	C	0.56	C
C	I-680 n/o SR 242	NB	0.50	B	0.65	C
		SB	0.53	B	0.44	B
D	I-680 n/o Willow Pass Rd	NB	0.45	B	0.58	C
		SB	0.57	C	0.48	B
E	I-680 n/o Concord Ave	NB	0.49	B	0.63	C
		SB	0.51	B	0.43	B
F	I-680 n/o SR 4	NB	0.35	B	0.56	C
		SB	0.52	B	0.44	B
	State Route 242					
G	SR 242 n/o I-680	NB	0.48	B	0.82	D
		SB	0.72	C	0.47	B
	State Route 4					
H	SR 4 e/o SR 242	EB	0.25	A	0.74	C
		WB	**1.19**	**F**	0.51	B
I	SR 4 e/o Port Chicago Hwy	EB	0.38	B	0.82	D
		WB	0.80	D	0.35	B
J	SR 4 e/o Willow Pass Rd	EB	0.33	B	0.84	D
		WB	0.99	E	0.39	B
K	SR 4 e/o San Marco Blvd	EB	0.35	B	0.77	D
		WB	**1.01**	**F**	0.41	B
L	SR 4 e/o Railroad Ave	EB	0.56	C	0.48	B
		WB	0.34	B	0.37	B

n/o = north of; s/o = south of; e/o = east of; NB = northbound; SB = southbound; EB = eastbound; WB = westbound; v/c denotes volume-to-capacity ratio; LOS denotes level of service
The HCM basic freeway methodology does not apply to or take into account HOV lanes. Although a lower capacity may be appropriate for the HOV lane, the model forecasts assume the same capacity for the HOV lane and the mixed-flow lane, so no adjustment to the HOV lane capacity was applied.
Bold font denotes exceedance of performance thresholds.
Source: Kittelson & Associates, 2014.

With the exception of two westbound segments on SR 4, all analysis freeway mainline segments currently operate at LOS D or better. The SR 4 westbound freeway mainline segments to the east of the SR 242 junction and to the east of San Marco Boulevard operate at LOS F with v/c ratios exceeding 1.0 during the AM peak hour.

3.4.4 Freeway Ramps

For freeway ramps, HCM procedures, as specified by Caltrans, were used to calculate the density[10] for each LOS threshold. First calculated was the peak-hour demand flow rate immediately upstream of a merge influence area or at the beginning of the deceleration lane at the point of divergence. In addition, several capacity values were computed to determine the critical capacity. The determining capacities are: maximum total flow approaching a major diverge area on the freeway, maximum total vehicle flow departing from a merge or diverge area on the freeway, maximum total flow entering the ramp influence area, and maximum flow on a ramp. When demand flow is greater than the critical capacity, the LOS is F. Otherwise, given a length of the acceleration lane or deceleration lane, the LOS was determined using the density of flow within the ramp influence area according to HCM procedures. Table 11 presents the LOS and density thresholds for merge and diverge areas.

Table 11 Level of Service and Density Thresholds for Merge and Diverge Areas

Level of Service	Density (pc/mi/ln)
A	≤ 10
B	> 10-20
C	> 20-28
D	> 28-35
E	> 35
F	Demand exceeds capacity

pc/mi/ln = passenger car per mile per lane
Source: Highway Capacity Manual, Transportation Research Board, Washington, D.C., 2010.

The existing LOS on the analysis freeway ramp locations is shown in Table 12. The results indicate that ramps are currently operating at LOS E or F at three locations in the AM peak hour and two locations in the PM peak hour. The westbound off-ramps to Port Chicago Hwy and to Willow Pass Road from SR 4 and the westbound on-ramp from Willow Pass Road to SR 4 operate at LOS F during the AM peak hour. The eastbound off-ramp to San Marco Road from SR 4 also operates at LOS F during the PM peak hour, while the eastbound off-ramp to Willow Pass Road from SR 4 operates at LOS E during the PM peak hour.

[10] Density is the number of vehicles on a roadway segment averaged over space, usually expressed as vehicles per mile or vehicles per mile per lane.

Table 12 Existing Peak Hour Level of Service on Freeway Ramps

		Existing AM			Existing PM		
	Ramp	**V/C**	**Density**	**LOS**	**V/C**	**Density**	**LOS**
	Interstate 680						
1	I-680: Willow Pass Rd NB off-ramp	0.68	29.36	D	0.75	32.24	D
2	I-680: Concord Av WB to NB on-ramp	0.51	21.55	C	0.61	25.16	C
3	I-680: Willow Pass Rd EB to SB on-ramp	0.53	16.58	B	0.64	20.20	C
	State Route 242						
4	SR 242: Clayton Rd NB off-ramp	0.47	8.43	A	0.79	20.69	C
5	SR 242: Concord Av EB to NB on-ramp	0.49	13.42	B	0.73	21.83	C
6	SR 242: Clayton Rd SB on-ramp	0.78	31.24	D	0.59	24.43	C
	State Route 4						
7	SR 4: Port Chicago EB off-ramp	0.25	10.71	B	0.73	28.97	D
8	SR 4: Port Chicago EB on-ramp	0.24	12.65	B	0.78	31.74	D
9	SR 4: Willow Pass Rd EB off-ramp	0.42	19.47	B	**0.86**	**36.34**	**E**
10	SR 4: Port Chicago WB on-ramp	0.48	20.99	C	0.58	24.36	C
11	SR 4: Port Chicago WB off-ramp	**1.08**	**44.57**	**F**	0.43	19.90	B
12	SR 4: Willow Pass Rd WB on-ramp	**0.96**	**37.81**	**F**	0.41	18.37	B
13	SR 4: Willow Pass Rd WB off-ramp	**1.01**	**41.98**	**F**	0.42	19.43	B
14	SR 4: San Marco Blvd EB off-ramp	0.41	7.71	A	**1.09**	**33.35**	**F**
15	SR 4: SB San Marco Blvd WB on-ramp	0.98	31.38	D	0.39	10.40	B
16	SR 4: NB San Marco Blvd WB on-ramp	0.81	32.47	D	0.32	15.02	B
17	SR 4: NB San Marco Blvd EB on-ramp	0.31	14.59	B	0.65	26.89	C
18	SR 4: San Marco Blvd WB off-ramp	0.78	33.10	D	0.37	17.75	B
19	SR 4: SB Bailey Rd EB off-ramp	0.35	9.62	A	0.75	24.62	C
20	SR 4: Bailey Rd WB on-ramp	0.88	28.45	D	0.35	9.87	A
21	SR 4: Railroad Ave WB on-ramp	0.88	34.45	D	0.42	18.49	B

NB = northbound; SB = southbound; EB = eastbound; WB = westbound;
v/c denotes volume-to-capacity ratio;
LOS denotes level of service
Bold font denotes exceedance of performance thresholds.
Source: Kittelson & Associates, 2014.

3.4.5 Multimodal Transportation Service Objectives (MTSO)

Freeways and signalized intersections on Routes of Regional Significance are evaluated based on MTSOs established in the East County Action Plan for Routes of Regional Significance (August 2009) and the Central County Action Plan for Routes of Regional Significance (July 2009). MTSOs are measures of effectiveness selected by TRANSPAC and TRANSPLAN, the regional transportation planning committees for East and Central Counties.

The methodology used to evaluate signalized intersections on RRS is the same as that described in the previous section; however, the applicable MTSOs vary depending on locations. The MTSOs for the analysis intersections in Central County are based on LOS. The thresholds for the analysis intersections in East County are based on v/c. The LOS target for the analysis intersections is LOS F and the v/c targets for the analysis intersections in East County range from 0.85 to 0.99.

For the purposes of the MTSOs analysis, freeways are measured by delay index in both Central County and East County.[11] Delay index (DI) is used to measure travel congestion on a corridor. It compares the amount of time required to travel between two points during the peak hour and during non-congested, off-peak hours, which is assumed to be between 10:00 AM and 3:00 PM. For example, if the MTSOs set a target DI of 3 for the RRS, it means that the peak hour travel time is not more than three times the off-peak travel time. The DI targets for the analysis freeways range from 2.5 to 5. The target is meant to be applied to a corridor; while individual segments may violate the target DI.

Utilization of high occupancy vehicle (HOV) lanes is another MTSO for freeways in East County. HOV lane utilization should exceed 600 vehicles per lane in the peak direction at peak hour.

In this study, the MTSO analysis for intersections are incorporated in the "Intersection Analysis" section as the methodology for MTSO analysis is the same as other non-RRS intersections. The MTSO analysis refers only to the freeway analysis described above. The existing travel speed and delay index on the three analysis freeways are presented in Table 13 for Central County and in Table 14 for East County. The existing delay index along the Central and East county corridors would be less than 2.0, which meets the MTSO. HOV lane utilization for SR 4 in East County, shown in Table 15, exceeds 600 vehicles per lane in the peak direction during the peak hour.

Table 13 Existing Peak Hour Delay Index on Freeways in Central County

Freeway	Peak Hour	Direction	Free Flow Speed (mph)	Existing	
				Speed (mph)	Delay Index
SR 4					
	AM	EB	65	62	1.0
	AM	WB	65	52	1.2
	PM	EB	65	46	1.4
	PM	WB	65	65	1.0
Interstate 680					
	AM	NB	65	46	1.4
	AM	SB	65	40	1.6
	PM	NB	65	44	1.5
	PM	SB	65	56	1.2
SR 242					
	AM	NB	65	50	1.3
	AM	SB	65	48	1.4
	PM	NB	65	53	1.3
	PM	SB	65	49	1.3

Source: Kittelson & Associates, 2014.

[11] The Delay Index is applied for the purposes of analyzing the MTSOs. The freeway mainline and ramps methodology and analysis described above was used to meet the Caltrans requirements.

Table 14 Existing Peak Hour Delay Index on SR 4 in East County

Freeway	Peak Hour	Direction	Free Flow Speed (mph)	Existing	
				Speed (mph)	Delay Index
SR 4					
	AM	EB	65	61	1.1
	AM	WB	65	49.1	1.4
	PM	EB	65	46	1.4
	PM	WB	65	51	1.3

Source: Kittelson & Associates, 2014.

Table 15 Existing Peak Hour HOV Lane Utilization on SR 4 in East County

Freeway	Peak Hour	Peak Direction	Vehicle per Lane
SR 4			
	AM	EB	--
	AM	WB	826
	PM	EB	1,029
	PM	WB	--

Source: Kittelson & Associates, 2014.

3.5 TRANSIT

Contra Costa County has a well-developed transit system in the urbanized areas. The transit system in the study area includes rail and bus services provided by the Bay Area Rapid Transit system (BART), County Connection, and Tri-Delta Transit.

BART provides heavy rail service to San Francisco as well as Contra Costa, Alameda and San Mateo counties from three stations in the study area. The study area is served by the Millbrae/Pittsburg-Bay Point line via the following three stations:

- The Concord BART station is located on Oakland Avenue near the historic downtown.
- North Concord/Martinez BART station is located on Port Chicago Highway at the terminus of Panoramic Drive.
- The Pittsburg/Bay Point station, terminus of the Millbrae/Pittsburg-Bay Point line, is located on Bailey Road south of SR 4.

Park and Ride facilities, bicycle lockers, and County Connection and/or Tri-Delta Transit bus feeder services are provided at all three stations.

County Connection, operated by the Central Contra Costa Transit Authority (CCCTA), provides fixed route and paratransit bus service in Concord, Walnut Creek, Martinez, Lafayette, Orinda, Clayton,

Pleasant Hill, Moraga, Danville and San Ramon, as well as unincorporated communities in Central County. Concord is served by 12 County Connection fixed bus routes providing local and regional services. Currently, there are no routes through the NWS site.

Tri-Delta Transit, operated by Eastern Contra Costa Transit Authority, provides bus service in East Contra Costa County with 12 bus routes serving Concord, Pittsburg, and Bay Point. Transit service types provided are local, commuter, BART feeders, door-to-door paratransit services for senior citizens and people with disabilities, and shuttle services for community events.

3.6 PEDESTRIAN AND BICYCLE NETWORK

Bicycling and pedestrian facilities are important components of the transportation network in the study area. They not only offer non-vehicular opportunities for both commute and recreational trips but also provide connections to BART and bus stations to allow access to the regional transit network.

Bicycle routes and paths are typical examples of bicycle transportation facilities. Bicycle facilities are defined as the following three classes according to Chapter 1000 of the Caltrans Highway Design Manual:

> **Class I** - Provides a completely separated facility designed for the exclusive use of bicyclists and pedestrians with crossing points minimized.
>
> **Class II** – Provides a restricted right-of-way designated lane for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross-flows by pedestrians and motorists permitted.
>
> **Class III** – Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.

The Contra Costa Countywide Bike and Pedestrian Plan, adopted in 2009, provides policy and infrastructure recommendations to improve bicycle and pedestrian facilities throughout the region. The Plan identified an extensive network of bicycle facilities in the study area and several existing and proposed Class I trails and one proposed Class II bike lane through the NWS site. The Plan also recommends that pedestrian improvements be prioritized in the following three areas: pedestrian-oriented districts, routes to transit and routes to other key activity centers.

Sidewalks provide access and circulation in key pedestrian activity areas. The City of Concord typically requires the installation of sidewalks for any new development. The Concord Trails Master Plan, which was adopted in 2002, provides a framework for planning trails in Concord with the purpose of promoting the use of trails for recreation as well as an alternative mode of transportation. Within the site, the Plan identifies several potential trail routes, including a connection to the Delta De Anza Trail and Class I collector trails that follow either rail lines or creeks that run through the site.

4 TRANSPORTATION IMPACT ANALYSIS

Analyses were performed for future cumulative conditions to determine the effect of the proposed action in combination with the projected growth in the surrounding communities. The cumulative analysis scenarios are summarized below and further detailed in the following section:

- No Action Alternative – Future conditions include projected population and employment growth as well as planned transportation system improvements contained in the latest CCTA travel demand model for Year 2040. The NWS site would not be developed and activities on the NWS site remain the same as Year 2013 when the counts were performed.

- Alternative 1: Concord Reuse Project Area Plan – Year 2040 conditions plus the addition of the land use and transportation network assumptions associated with Alternative 1 on the NWS site.
- Alternative 2: Intensified Reuse – Year 2040 conditions plus the addition of the land use and transportation network assumptions associated with Alternative 2 on the NWS site.

4.1 MODEL FORECASTS

The latest countywide travel demand model of the Contra Costa Transportation Authority (CCTA) was used to develop future volume forecasts for cumulative conditions. The county is divided into traffic analysis zones (TAZs) in the model. The TAZs used for all study scenarios in this analysis, including No Action, Alternative 1 and Alternative 2, are the same as the ones used for the 2010 Reuse Plan EIR and the 2012 Area Plan EIR Addendum. Therefore, the analysis also realized the benefits of smaller dense zones around the North Concord/Martinez BART Station that help capture trip distribution that are more sensitive to transit-oriented development and pedestrian-oriented landscape.

The model includes future development throughout the region. The 2040 cumulative land use and socioeconomic forecasts are consistent with regional totals for growth projected in the Sustainable Communities Strategy Base Case "Modified Projections 2009" land use unofficially released by the Association of Bay Area Governments (ABAG). Therefore, the traffic forecasts reflect traffic from growth in Concord, as well as traffic in the region that may use the local roadways.

The CCTA model includes roadway improvements that have been planned or programmed for Concord and neighboring communities. For the network within Concord, the CCTA model was modified to reflect planned improvements that are not included in the model but are a part of the Concord General Plan and/or the City's Capital Improvement Program. These improvements are assumed to be in place under all cumulative alternatives:

1. I-680/Marina Vista Interchange Modifications
2. Bates Avenue: Widen to four lanes from Industrial Way to Mason Circle
3. Port Chicago Highway: Widen to four lanes from Bates Avenue north to the Union Pacific Railroad (UPRR) crossing

4. Evora Road: Widen from Willow Pass to Pomo Street
5. West Leland Road Extension and Avila Road Widening
6. Pacheco Boulevard: Widen to four lanes north of SR 4
7. SR 4 and I-680 connector ramps and high-occupancy vehicle (HOV) connection
8. Marsh Drive: Widen to four lanes from Center Avenue to Concord city limit
9. Willow Pass Road: Widen to four lanes between Landana Drive and SR 4
10. Commerce Avenue Extension: Extend existing two-lane arterial
11. Waterworld Parkway Bridge over Walnut Creek: Construct a two-lane bridge with bicycle lanes over Walnut Creek connecting Waterworld Parkway with Meridian Park Boulevard
12. Clayton Road/SR 242 Interchange: New northbound on-ramp and new southbound off-ramp
13. Meadow Lane: Widen to four lanes between Monument Boulevard and Clayton Road
14. Monument Boulevard: Widen to six lanes from Systron Drive to Cowell Road
15. Concord Boulevard: Widen to four lanes from 6th Street to Farm Bureau Road
16. Farm Bureau Road: Widen to four lanes between Willow Pass Road and Clayton Road
17. Denkinger Road: Widen to four lanes between Clayton Road and Concord Boulevard
18. Cowell Road: Widen to four lanes between Monument Boulevard and Treat Boulevard
19. I-680 northbound HOV lane from North Main Street to SR 242 and I-680 southbound HOV lane from North Main Street to Livorna Road
20. Ygnacio Valley Road: Widen to six lanes between Cowell Road and Michigan Boulevard
21. Kirker Pass Road: Add climbing lane from Clearbrook Drive to Pittsburg city limit
22. Buchanan Road Bypass: Connect James Donlon Boulevard to Kirker Pass Road
23. SR 4 widening to provide an additional lane eastbound and westbound between SR 242 and I-680

For the three analysis alternatives, the model databanks, including land use, socioeconomic input as well as roadway and transit networks for the site, were modified to reflect the analysis scenarios. The proposed roadway networks for Alternative 1 and Alternative 2 are shown in Figure 1 and Figure 2. The land use and roadway and transit networks of Alternative 1 are the same as those assumed in the 2012 Area Plan EIR Addendum; the roadway and transit networks of Alternative 2 are similar to Alternative 1. As the program for the site is developed, the on-site roadway and transit networks would be refined. The roadway networks on Figure 1 and Figure 2 are based on existing knowledge and likely development of the site; as specific development proposals are made, the on-site roadway network may be modified. However, the planned connections to existing roadways outside the project site would not be altered.

The CCTA model follows a four-step process to estimate travel behavior and travel demand for the proposed reuse of NWS Concord in the context of the surrounding land uses and transportation systems. The process includes the following four steps:

1. Trip generation to estimate the number of trips that will be made.
2. Trip distribution to estimate where those trips will go.
3. Mode choice to estimate how the trips will be divided among the modes of travel; and
4. Trip assignment to predict the routes those trips will take.

The trip generation emulates the regional Metropolitan Transportation Commission (MTC) *person* trip generation, which includes non-motorized (bicycle and walk) trips as well as motorized modes (auto and transit). The trip generation is based on inputs, such as population, households, employed residents, employment by category (service, retail, agricultural, industrial, and other), income classifications, school enrollment, and age categories as well as other characteristics of the traffic analysis zone (TAZ), like parking costs and terminal times. The motorized trips are distributed between 'productions' (trips made by households, workers, or students from the home end) and 'attractions' (non-home end) and assigned to the roadway and transit networks.

With this latest version of the CCTA model, almost 300 smaller TAZs were added in the vicinity of the transit-oriented developments (TODs) and Priority Development Areas (PDAs) throughout Contra Costa County to better reflect the trip-making associated with smart growth. These smaller TAZs and more detailed roadway networks serve to represent good access to transit and shorter trips associated with walking and/or bicycling. The detailed geographic representations of TODs and PDAs enable the model to capture many of the "4Ds" effects. The 4Ds: density, diversity, design and destinations, are characteristics of the built environment that tend to affect travel behavior. The small TAZs represent shorter walk distances within zones (density) and shorter distances between mixed uses within a zone (diversity). Further, the detailed network represents shorter distances between zones (destinations). The latest CCTA model includes transit and auto accessibility factors as zonal inputs which affect auto ownership and make the model more responsive to TOD characteristics. These accessibility factors affect project vehicle trip generation and vehicle miles travelled, when compared with the previous model. For this analysis, the smaller TAZs and more detailed roadway network can be found around the North Concord/Martinez BART station, as shown in Figure 8.

Table 16 provides a summary of daily vehicle trips, average vehicle trip lengths, and vehicle miles traveled (VMT) from the CCTA model runs. The City of Concord provided household population, employment, and student enrollment numbers by TAZ to generate the number of daily vehicle trips, average vehicle trip lengths, and VMTs. The daily vehicle trips are trips that are generated on the site and include trips with one or both of the trip's ends on the site. VMT represents the total travel on the roadway network by all vehicle trips with one or both ends on the site including the travel to and from the site that is generated by those trips. This measure does not include regional trips that would pass through the site or Concord but do not have a trip end on the site.

The trip summaries indicate that while Alternative 2 has 23 percent greater population than Alternative 1, the number of employment and college students are the same between the two alternatives. Consequently, Alternative 2 would generate almost 13 percent more daily vehicle trips and 17 percent more VMT than Alternative 1. The average trip length for Alternative 2 is also slightly longer than that of Alternative 1. The average trip length is calculated by dividing VMT by the number of vehicle trips.

Estimates of the vehicle trips that would be generated throughout the NWS site are based on the location of the proposed development and the type of uses being proposed. Details of daily vehicle trips by TAZ are provided in Table 17. The area close to the BART station with highest employment (TAZ 20636) generates the most daily vehicle trips in Alternative 1 and Alternative 2.

Path: L:\Buffalo\Concord_BRAC\Maps\MXD\Report_Maps\BRAC_EIS\Traffic Analysis Zones_TrafficReport_Rev01.mxd

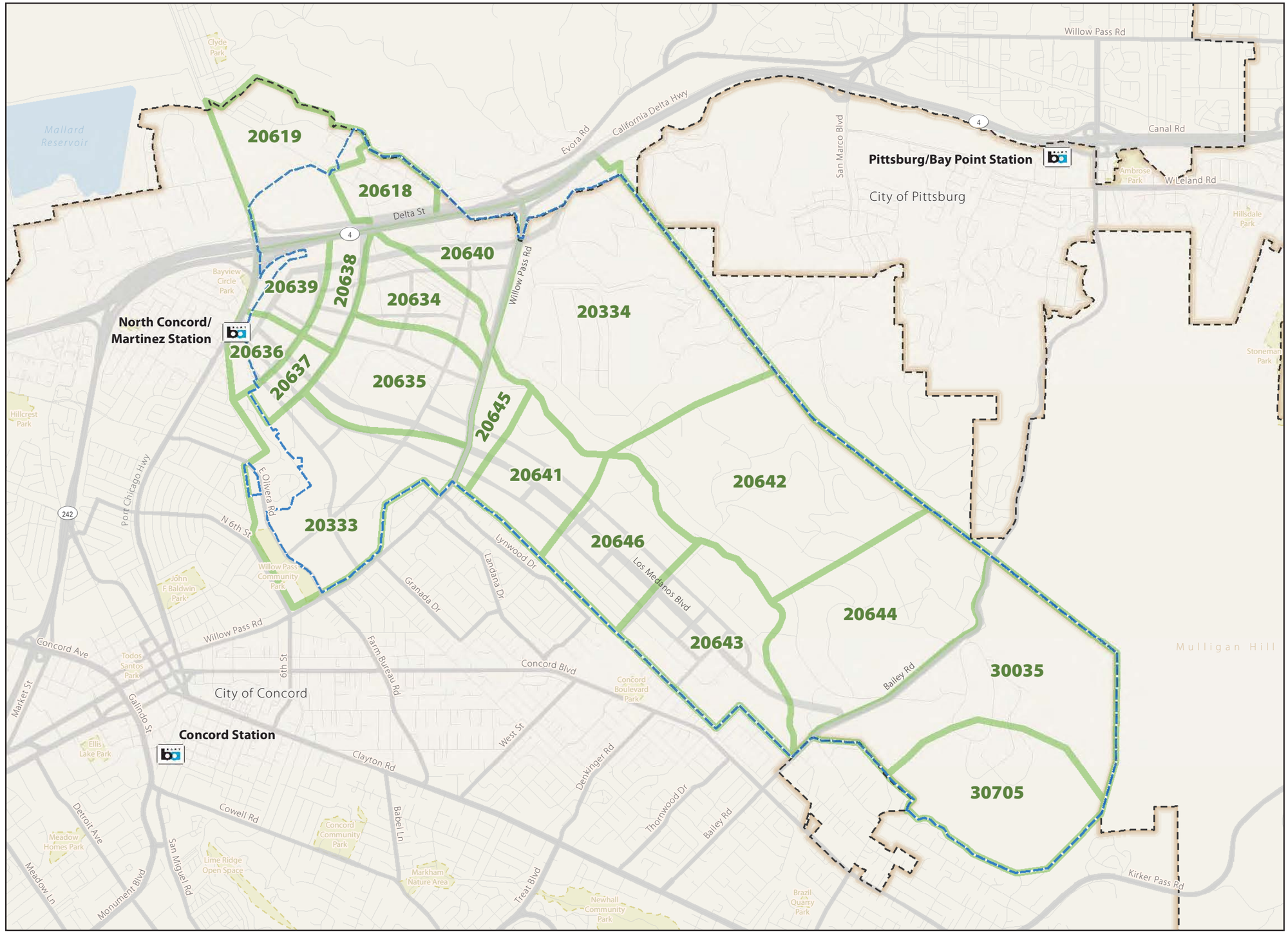


Figure 8
Traffic Analysis Zones
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- BART Station
- Traffic Analysis Zones (TAZs)

SCALE

0 0.5 1 Miles

SOURCE: ESRI, 2010

Table 16 Daily Vehicle Trip Summaries

Scenario	Household Population	Employment	Students (Full-Time College Students)	Daily Vehicle Trips	Average Trip Length (miles)	Daily Vehicle Miles Travelled (VMT)
2013 Base Model	122	561	0	2,046	9.3	19,096
2040 No Action Alternative	122	561	0	2,046	9.3	19,096
2040 Alternative 1	28,861	26,531	10,000	203,205	8.1	1,638,958
2040 Alternative 2	35,500	26,532	10,000	229,301	8.4	1,921,144

Source: Kittelson & Associate, 2014.

The second step in the model was to estimate trip distribution or the number of trips between each zone of origin and destination. The CCTA model accomplishes this through a gravity model that uses travel time between TAZs and trip purpose (e.g., work, shopping, school) to estimate where trips will go. Table 18 shows where vehicle trips would go during the AM and PM peak hours, which are the time periods for which the analyses were conducted. As shown in Table 18, the travel patterns for both alternatives are similar, with most (almost half) of the vehicle trips going to and coming from the east (East Contra Costa County). The vehicle trips that would stay internal to the NWS site (shown in the table as Project Area trips) represent 15 to 16 percent of all trips for Alternatives 1 and 2 during the AM peak hour and 19 percent of all trips for both alternatives during the PM peak hour.

The third step in the model is to determine what mode of travel is used. The CCTA model estimates the mode of travel through a series of choices that capture decisions made by the traveler. Generally, the first choice is whether to travel by vehicle (e.g. automobile or transit) or non-vehicle (walk or bike), then the second choice, where relevant, breaks those choices down further into more specific automobile travel decisions (e.g. drive alone or carpool) and mode of travel to the transit (e.g. by walking or driving to the station or bus stop). As shown in Table 19, the CCTA model estimates that the mode of travel for the NWS project is primarily automobile trips. While the area near the BART station is designed as a transit-oriented development (TOD), the CCTA model shows that the project would result in relatively low transit use, which could be attributed in part to the fact that most of the development of the NWS site, including the college, is outside the TOD. However, it should be noted that the mode choice estimates from this version of the CCTA model (as compared to the previous version, which applied manual overrides to compensate for prior limitations of the model that was used to support the traffic analysis in the EIR and EIR Addendum), applies zonal accessibility assumptions that are consistent with the regional (MTC) model, resulting in vehicle trips rather than transit trips for a more conservative estimate of the traffic impacts discussed below.

Table 17 Alternative 1 and Alternative 2 Daily Vehicle Trip Summaries by TAZ

Scenario/TAZ	Household Population	Employment	College Students	Daily Vehicle Trips
2040 Alternative 1				
20333	5,257	1,094	0	21,663
20334	0	0	0	0
20618	0	116	0	331
20619	0	0	0	0
20634	0	4,321	5,000	24,017
20635	6,554	2,066	0	28,173
20636	1,190	11,910	0	35,101
20637	2,064	150	0	8,519
20638	1,469	1,850	0	14,349
20639	2,064	1,650	0	16,410
20640	0	2,544	5,000	19,538
20641	3,519	502	0	13,232
20642	0	0	0	0
20643	3,372	144	0	10,916
20644	0	0	0	0
20645	0	0	0	0
20646	3,372	144	0	10,839
30035	0	40	0	112
30705	0	0	0	0
2040 Alternative 2				
20333	4,115	932	0	18,703
20334	0	0	0	0
20618	0	4,603	10,000	31,322
20619	0	0	0	0
20634	1,677	1,700	0	14,820
20635	8,303	288	0	29,131
20636	3,112	9,528	0	34,779
20637	2,544	2,457	0	16,216
20638	1,469	1,850	0	14,603
20639	3,948	1,650	0	21,894
20640	0	2,544	0	11,088
20641	3,444	552	0	13,691
20642	0	0	0	0
20643	3,444	194	0	11,503
20644	0	0	0	0
20645	0	0	0	0
20646	3,444	194	0	11,436
30035	0	40	0	109
30705	0	0	0	0

Source: Kittelson & Associate, 2014.

Table 18 Trip Distribution

	Alternative 1				Alternative 2			
	AM		PM		AM		PM	
	Trips	%	Trips	%	Trips	%	Trips	%
Project Area	2,702	16%	4,230	19%	3,019	15%	4,775	19%
City of Concord	2,366	14%	2,878	13%	2,951	15%	3,709	15%
Central Contra Costa	1,644	10%	1,800	8%	2,298	12%	2,540	10%
East Contra Costa	8,411	49%	10,764	50%	8,382	43%	10,792	44%
Tri-Valley	491	3%	467	2%	757	4%	724	3%
West Contra Costa	476	3%	437	2%	718	4%	669	3%
Alameda County	420	2%	446	2%	582	3%	625	3%
San Francisco County	139	1%	101	0%	182	1%	133	1%
San Mateo County	59	0%	49	0%	76	0%	62	0%
Santa Clara County	58	0%	89	0%	73	0%	112	0%
Solano County	336	2%	368	2%	440	2%	488	2%
Napa County	28	0%	27	0%	35	0%	34	0%
Sonoma County	27	0%	35	0%	35	0%	45	0%
Marin County	33	0%	39	0%	43	0%	51	0%

Source: Kittelson & Associates, Inc., 2014.

Table 19 includes an estimate of the mode of travel for trips that would be internal to the NWS site (from NWS to NWS). While a smaller portion of overall trips for each alternative (about 3 percent), walk trips represent about 13 percent of the trips that would occur within the project site for both alternatives. Transit travel for trips that are coming from NWS and going to outside the project site would be higher than those trips coming from outside and going to the NWS site.

Table 19 Daily Person Trips by Mode

From	To	Total	Drive Alone	Shared Ride 2	Shared Ride 3+	Transit	Bicycle	Walk
Alternative 1								
NWS	NWS	49,241	30,529	8,852	3,131	17	267	6,426
NWS	Outside	78,267	53,402	13,819	5,647	2,120	511	647
Outside	NWS	125,252	84,776	25,325	11,487	763	978	1,160
Alternative 2								
NWS	NWS	55,420	33,680	10,274	4,179	23	294	6,946
NWS	Outside	100,030	66,466	18,003	7,377	3,204	808	967
Outside	NWS	131,924	89,281	27,107	12,186	614	927	1,196

Source: Kittelson & Associates, Inc., 2014.

Note: "Transit" includes two categories, "transit-walk," which refers to trips for which the transit rider walks to the transit stop/station, and "transit-drive," which refers to trips for which the transit rider drives to the transit stop/station.

The last step of the model is trip assignment, where vehicle trips are allocated to specific routes on the roadway network between TAZs representing the origins and destinations based on the trip distribution described above. The model determines the specific route based on the peak hour travel times between zonal pairs that are reflective of the traffic volumes on the roadways. The trip assignment would reflect slower speeds, thus increased travel times, as traffic volumes increase on a particular roadway.

4.2 PERFORMANCE STANDARDS

The performance standards for study roadway facilities are governed by a number of programs and plans put forth by CCTA and its regional planning committees, the California Department of Transportation (Caltrans), and the City of Concord. These programs and plans include 1) the Congestion Management Program (CMP), in which CCTA established standards for freeway mainline segments and certain intersections on the CMP network; [12] 2) Action Plans for Routes of Regional Significance, in which TRANSPAC and TRANSPLAN, sub-regional transportation planning committees for the Central County and East County, respectively, established multi-modal transportation service objectives (MTSOs) for certain roadways and intersections on designated Routes of Regional Significance (RRS) within their respective subareas; and 3) the City of Concord General Plan Policies, which established two distinct LOS standards for applications on basic roadway segments and intersections located within Concord's Central Business District, North Concord/Martinez BART station area, and on transit routes and those located outside of these areas. When multiple standards are applicable, the most stringent standards are applied. The standards relevant to the study locations are provided below.

Contra Costa Congestion Management Program

The CMP has identified performance standards to be LOS F along the following freeway mainline segments:

- Southbound Interstate 680
- Northbound Interstate 680 north of SR 4
- Northbound Interstate 680 between SR 242 and El Cerro Boulevard
- Southbound SR 242
- SR 4 east of SR 242 (both directions)

The CMP has identified performance standards to be LOS E along the following freeway mainline segments:

- Northbound Interstate 680 between SR 4 and SR 242
- SR 4, Interstate 680 and SR 242 (both directions)

[12] Contra Costa Transportation Authority, *2011 Update Contra Costa Congestion Management Program* (adopted November 16, 2011).

- Northbound SR 242

The CMP has identified performance standards to be LOS F at the following intersections:

- North Main Street and Sunnyvale Avenue/I-680 ramps (#8)
- North Main Street and Geary Road (#9)
- Bancroft Road and Treat Boulevard (#12)
- Oak Grove Road and Treat Boulevard (#13)
- Walnut Avenue-Bancroft Road and Ygnacio Valley Road (#15)
- Oak Grove Road and Ygnacio Valley Road (#16)
- Ayers Road and Ygnacio Valley Road (#17)

The CMP has identified performance standards to be LOS E at the following intersections:

- Buskirk Avenue-NB Interstate 680 off ramp and Treat Boulevard (#10)
- Oak Road and Treat Boulevard (#11)
- Northbound Interstate 680 off ramp and Ygnacio Valley Road (#14)

Central County and East County Action Plans for Routes of Regional Significance

The following MTSOs for freeway Routes of Regional Significance have been adopted:

- Interstate 680 – 4.0 delay index
- SR 242 – 3.0 delay index
- SR 4 – 5.0 delay index from Cummings Skyway to Willow Pass Road
- SR 4 – 2.5 delay index in East County
- SR 4 – 600 vehicle per HOV lane utilization in the peak direction at peak hour in East County

The following MTSO for arterial Routes of Regional Significance have been adopted:

- North Main Street and Geary Road intersection (#9) – LOS F
- Bancroft Road and Treat Boulevard intersection (#12) – LOS F
- Walnut Avenue-Bancroft Road and Ygnacio Valley Road intersection (#15) – LOS F
- Willow Pass Road and Evora Road (west) intersection (#18) – LOS mid-D (v/c 0.85)
- Willow Pass Road and SR 4 westbound ramps intersection (#19) - LOS mid-D (v/c 0.85)
- Willow Pass Road and SR 4 eastbound ramps intersection (#20) - LOS mid-D (v/c 0.85)
- Willow Pass Road and Avila Road intersection (#21) - LOS mid-D (v/c 0.85)
- Willow Pass Road and Evora Road (East)-SR 4 westbound off-ramp intersection (#22) – LOS mid-D (v/c 0.85)
- San Marco Boulevard-Willow Pass Road /SR 4 eastbound ramps intersection (#23) – LOS mid-D (v/c 0.85)
- San Marco Boulevard and W. Leland Road intersection (#24) – LOS mid-D (v/c 0.85)
- Bailey Road and Willow Pass Road intersection (#25) – LOS E
- Bailey Road and SR 4 eastbound ramps-BART access intersection (#26) – LOS E
- Railroad Avenue and W. Leland Road intersection (#27) – LOS mid-D (v/c 0.85)
- Kirker Pass Road and James Donlon Boulevard intersection (#28) – LOS mid-D (v/c 0.85)

City of Concord General Plan

The City of Concord General Plan has established the following performance benchmarks for signalized intersections and roadway segments:

- Outside the Central Business District[13], outside ½ mile of BART, and not on transit routes[14] - LOS D (0.90 v/c)
- Central Business District, within ½ mile of a BART Station, or on transit routes - LOS E (Up to 1.0 v/c)
- Congestion Management Plan (CMP) Monitoring Intersections operating at LOS F in 1991 and roadway segments connecting to one or more such intersections - LOS F (over 1.0 v/c)
- All remaining CMP Monitoring Intersections and roadway segments[15] connecting to one or more of such intersections - LOS E (Up to 1.0 v/c)
- For transportation facilities that fail to meet LOS standards (as defined above) under no project conditions, an increase in the volume/capacity ratio of 0.03 or greater above no project conditions was considered to be significant.

4.3 IMPACT ANALYSIS

The potential effects of the no action alternative and the action alternatives (Alternative 1 and Alternative 2) on the study intersections, roadway segments, freeway mainline segments and ramps were assessed. The analysis results for the study intersections (Table 20), roadway segments (Table 21), freeway mainline segments (Table 22 and Table 23), freeway ramps (Table 24 and Table 25), freeway segment delay index (Table 26 and Table 27), and HOV lane utilization (Table 28) are presented in this section.

A summary of the number of impacted locations is presented in Table 29. Figures showing the location of these impacts are provided in Appendix 5. An impacted location is where 1) the condition would fall below the performance thresholds if the location is within standard under Existing Conditions; or 2) the v/c ratio is higher than that of Existing Conditions if the threshold is already exceeded under Existing Conditions.

[13] The Central Business District is generally defined as the area bound by Concord Avenue and Salvio Street to the north, Willow Pass Road, Clayton Road and Galindo Street to the south; Port Chicago Highway, Oakland Avenue and Mesa Street to the east; and I-680 to the west.

[14] Transit routes are generally defined as serving two or more transit lines

[15] LOS F if roadway segment is located between LOS E and LOS F Monitoring Intersections.

Table 20 Intersection Level of Service – Cumulative Conditions

					Existing		No Action		Alternative 1		Alternative 2	
	Intersection	**Control**	**LOS Threshold**	**Peak Hour**	**LOS**	**V/C or delay**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**
1	Port Chicago Hwy / Panoramic Dr	Signal	E	AM	A	0.38	B	0.62	**F**	**1.02**	**F**	**1.10**
				PM	A	0.40	C	0.77	**F**	**1.12**	**F**	**1.08**
2	Port Chicago Hwy / Olivera Rd	Signal	E	AM	B	0.65	A	0.58	E	0.95	D	0.88
				PM	B	0.69	C	0.74	D	0.85	E	0.99
3	Farm Bureau Rd / Willow Pass Rd	Signal	D	AM	B	0.66	C	0.74	B	0.60	B	0.64
				PM	B	0.67	**F**	**1.03**	D	0.86	**E**	**0.96**
4	Commerce Av - SR242 SB/ Concord Av	Signal	E	AM	A	0.59	B	0.64	B	0.65	C	0.72
				PM	C	0.75	D	0.80	D	0.84	D	0.83
5	West St / Concord Blvd	Signal	D	AM	A	0.53	B	0.63	C	0.72	C	0.79
				PM	A	0.49	A	0.55	B	0.64	B	0.63
6	Denkinger Rd / Concord Blvd	Signal	D	AM	A	0.45	A	0.53	A	0.58	A	0.59
				PM	A	0.53	B	0.61	B	0.62	B	0.64
7	Bailey Rd / Concord Blvd	Signal	D	AM	A	0.59	C	0.77	C	0.72	C	0.73
				PM	A	0.56	A	0.53	A	0.58	A	0.58
8	North Main St / Sunnyvale Av-SB I-680 Ramps	Signal	F	AM	D	0.81	F	1.01	E	1.00	E	0.97
				PM	C	0.71	D	0.87	D	0.86	D	0.86
9	North Main St / Geary Rd	Signal	F	AM	B	0.69	D	0.84	D	0.84	D	0.80
				PM	C	0.78	E	0.95	F	1.02	F	1.02
10	Buskirk Av-NB I-680 Off Ramp / Treat Blvd	Signal	E	AM	A	0.58	A	0.59	B	0.60	A	0.58
				PM	A	0.60	B	0.66	B	0.68	B	0.68
11	Oak Rd / Treat Blvd	Signal	E	AM	A	0.59	B	0.60	A	0.60	B	0.61
				PM	C	0.72	C	0.78	D	0.80	D	0.82
12	Bancroft Rd /	Signal	F	AM	D	0.85	D	0.84	D	0.85	D	0.84

					Existing		No Action		Alternative 1		Alternative 2	
	Intersection	**Control**	**LOS Threshold**	**Peak Hour**	**LOS**	**V/C or delay**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**
	Treat Blvd			PM	D	0.88	E	0.93	E	0.97	E	0.97
13	Oak Grove Rd / Treat Blvd	Signal	F	AM	E	0.96	E	0.99	E	0.97	E	0.99
				PM	D	0.81	D	0.83	D	0.84	D	0.85
14	NB I-680 Off Ramp / Ygnacio Valley Rd	Signal	E	AM	E	0.93	**F**	**1.00**	**F**	**1.00**	**F**	**1.00**
				PM	E	0.99	**F**	**1.02**	**F**	**1.00**	**F**	**1.00**
15	Bancroft Rd / Ygnacio Valley Rd	Signal	F	AM	C	0.76	D	0.80	D	0.81	D	0.80
				PM	C	0.78	D	0.81	D	0.82	D	0.81
16	Oak Grove Rd / Ygnacio Valley Rd	Signal	F	AM	E	0.91	E	0.95	E	0.94	E	0.97
				PM	D	0.85	E	0.91	E	0.94	E	0.92
17	Ayers Rd / Ygnacio Valley Rd	Signal	F	AM	E	0.91	C	0.80	C	0.74	C	0.76
				PM	D	0.84	B	0.62	A	0.59	B	0.60
18	Willow Pass Rd / Evora Rd (West)	Signal	mid-D	AM	B	0.68	**F**	**1.55**	**F**	**1.91**	**F**	**2.58**
			v/c 0.85	PM	A	0.44	**E**	**0.92**	**F**	**1.56**	**F**	**2.45**
19	Willow Pass Rd / SR 4 WB ramps	All-Way Stop/Signal	mid-D	AM	**E**	**41.8**	C	0.71	**F**	**1.19**	**F**	**1.00**
			v/c 0.85	PM	C	16.0	A	0.49	C	0.73	B	0.68
20	Willow Pass Rd / SR 4 EB ramps	All-Way Stop/Signal	mid-D	AM	**F**	**70.2**	A	0.48	D	0.85	**F**	**1.27**
			v/c 0.85	PM	C	22.1	C	0.79	**E**	**0.96**	**E**	**0.91**
21	Willow Pass Rd / Avila Rd	1-Way Stop/Signal	mid-D	AM	A(B)	0.2(13.9)	**F**	**1.09**	**F**	**1.35**	**F**	**1.5**
			v/c 0.85	PM	A(C)	0.4(19.7)	**F**	**1.07**	**F**	**1.26**	**F**	**1.27**
22	Willow Pass Rd / Evora Rd (East)- SR 4 WB Off Ramp	Signal	mid-D	AM	A	0.46	**F**	**1.2**	**F**	**1.25**	**F**	**1.26**
			v/c 0.85	PM	A	0.29	A	0.51	B	0.67	B	0.66
23	San Marco Blvd-	Signal	mid-D	AM	A	0.39	D	0.81	**F**	**1.13**	**F**	**1.03**

					Existing		No Action		Alternative 1		Alternative 2	
	Intersection	**Control**	**LOS Threshold**	**Peak Hour**	**LOS**	**V/C or delay**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**
	Willow Pass Rd/SR 4 EB ramps		v/c 0.85	PM	A	0.50	**F**	**1.01**	**F**	**1.61**	**F**	**1.59**
24	San Marco Blvd / W. Leland Rd	Signal	mid-D	AM	A	0.85	D	0.84	**D**	**0.89**	**D**	**0.87**
			v/c 0.85	PM	C	0.33	C	0.72	D	0.85	**D**	**0.89**
25	Bailey Rd / Willow Pass Rd	Signal	E	AM	A	0.39	C	0.72	C	0.78	C	0.77
				PM	A	0.51	D	0.8	E	0.92	E	0.92
26	Bailey Rd / SR 4 EB ramps-BART access	Signal	E	AM	A	0.41	B	0.68	D	0.83	E	0.91
				PM	**F**	**1.11**	**F**	**1.36**	**F**	**1.86**	**F**	**1.84**
27	Railroad Av / W. Leland Rd	Signal	mid-D	AM	A	0.55	**D**	**0.88**	**D**	**0.86**	**D**	**0.87**
			v/c 0.85	PM	D	0.81	**E**	**0.98**	**E**	**1**	**E**	**0.99**
28	Kirker Pass Rd / James Donlon Blvd	Signal	mid-D	AM	**Future Intersection**		**F**	**1.14**	**F**	**1.16**	**F**	**1.16**
			v/c 0.85	PM			**D**	**0.95**	**F**	**1**	**F**	**1**

V/C denotes Volume-to-Capacity ratio and is used for signalized intersections; average vehicle delay in seconds are used for unsignalized intersections; all future intersections are signalized;
Analysis performed with CCTALOS methodology using Traffix software program
Bold font denotes exceedance of performance thresholds
Green highlight denotes a project-specific impacted location under either action alternative where the v/c or delay is lower than or same as No Action alternative
Yellow highlight denotes a project-specific impacted location under either action alternative where the v/c or delay is higher than No Action alternative
Purple highlight denotes a contributing impacted location under either action alternative where the v/c or delay is higher than No Action alternative and already exceeds LOS threshold under Existing Conditions
Source: Kittelson & Associates, Inc. 2014.

Table 21 Roadway Segment Level of Service – Cumulative Conditions

	Street Name	Location	LOS Threshold	Existing			No Action			Alternative 1			Alternative 2		
				LOS	V/C	Volume	LOS	V/C	Volume	LOS	V/C	Volume	LOS	V/C	Volume
				AM Peak Hour											
	Regional Arterials														
A	Ygnacio Valley Rd	East of Cowell Rd	E	C	0.82	3,074	C	0.66	3,710	C	0.70	3,988	C	0.56	3,195
	Arterials														
B	Bailey Rd	East of Concord Blvd	D	D	0.77	924	**F**	**1.31**	**1,566**	**E**	**0.95**	**1,136**	**E**	**0.95**	**1,143**
C	Concord Blvd	West of Denkinger Rd	E	D	0.57	1,739	D	0.76	2,298	D	0.83	2,512	D	0.83	2,520
D	Port Chicago Hwy	North of Olivera Rd	E	C	0.57	1,009	C	0.61	1,065	**F**	**1.18**	**2,075**	**F**	**1.14**	**2,002**
E	Kirker Pass Rd	South of Myrtle Dr	D	D	0.50	2,292	D	0.84	3,862	D	0.81	3,700	D	0.81	3,731
				PM Peak Hour											
	Regional Arterials														
A	Ygnacio Valley Rd	East of Cowell Rd	E	C	0.86	3,243	C	0.64	3,619	C	0.63	3,590	C	0.56	3,149
	Arterials														
B	Bailey Rd	East of Concord Blvd	D	D	0.58	700	D	0.94	1,124	D	0.61	729	D	0.63	754
C	Concord Blvd	West of Denkinger Rd	E	D	0.63	1,926	D	0.79	2,480	D	0.94	2,854	D	0.92	2,797
D	Port Chicago Hwy	North of Olivera Rd	E	C	0.69	1,223	C	0.75	1,315	**F**	**1.17**	**2,051**	**F**	**1.24**	**2,180**
E	Kirker Pass Rd	South of Myrtle Dr	D	D	0.51	2,323	D	0.73	3,365	D	0.74	3,380	D	0.74	3,406

V/C denotes volume-to-capacity ratio
LOS denotes level of service
Bold font denotes exceedance of performance thresholds
Green highlight denotes an impacted location under either action alternative where the v/c is lower than No Action alternative
Yellow highlight denotes impacted location under either action alternative where the v/c is higher than No Action alternative
Source: Kittelson & Associates, Inc. 2014.

Table 22 Freeway Mainline Segment Level of Service – Cumulative Conditions (AM Peak Hour)

	Mainline Segment	Dir	LOS	Existing			No Action			Alternative 1			Alternative 2		
			Threshold	Volume	v/c	LOS	Volume	v/c	LOS	Volume	v/c	LOS	Volume	v/c	LOS
	Interstate 680														
A	I-680 s/o Monument Blvd	NB	F	7,433	0.64	C	7,444	0.64	C	8,258	0.71	C	8,220	0.70	C
		SB	F	8,592	0.62	C	9,662	0.70	C	9,643	0.70	C	9,752	0.71	C
B	I-680 n/o Monument Blvd.	NB	F	7,529	0.58	C	7,532	0.58	C	8,384	0.65	C	8,400	0.65	C
		SB	F	8,702	0.67	C	9,804	0.76	D	9,759	0.76	D	9,836	0.76	D
C	I-680 n/o SR 242	NB	F	4,339	0.50	B	4,500	0.52	B	4,519	0.52	B	4,514	0.52	B
		SB	F	5,015	0.53	B	5,755	0.60	C	5,839	0.61	C	5,826	0.61	C
D	I-680 n/o Willow Pass Rd	NB	F	4,275	0.45	B	4,218	0.44	B	4,149	0.44	B	4,235	0.45	B
		SB	F	4,941	0.57	C	5,602	0.65	C	5,732	0.67	C	5,741	0.67	C
E	I-680 n/o Concord Ave	NB	F	4,211	0.49	B	4,338	0.50	B	4,325	0.50	B	4,485	0.52	B
		SB	F	4,867	0.51	B	5,502	0.58	C	5,590	0.59	C	5,571	0.59	C
F	I-680 n/o SR 4	NB	F	3,044	0.35	B	4,814	0.56	C	4,752	0.55	C	4,774	0.55	C
		SB	F	4,969	0.52	B	5,190	0.55	C	5,388	0.57	C	5,327	0.56	C
	SR 242														
G	SR 242 n/o I-680	NB	F	3,120	0.48	B	3,949	0.61	C	4,869	0.75	D	4,881	0.76	C
		SB	F	4,684	0.72	C	5,119	0.79	D	5,007	0.77	D	5,140	0.80	D
	SR 4														
H	SR 4 e/o SR 242	EB	F	2,150	0.25	A	3,440	0.40	B	3,578	0.42	B	4,342	0.50	B
		WB	F	**5,111**	**1.19**	**F**	**7,292**	**1.69**	**F**	**6,747**	**1.57**	**F**	**6,829**	**1.59**	**F**
I	SR 4 e/o Port Chicago Hwy	EB	F	3,282	0.38	B	4,845	0.56	C	6,181	0.72	C	7,175	0.83	D
		WB	F	6,889	0.80	D	**12,102**	**1.40**	**F**	**10,765**	**1.25**	**F**	**11,068**	**1.28**	**F**
J	SR 4 e/o Willow Pass Rd	EB	F	3,148	0.33	B	4,784	0.50	B	6,392	0.67	C	6,311	0.66	C
		WB	F	8,490	0.99	E	**12,320**	**1.43**	**F**	**13,544**	**1.57**	**F**	**13,515**	**1.57**	**F**
K	SR 4 e/o San Marco Blvd	EB	F	3,025	0.35	B	4,293	0.50	B	5,315	0.62	C	5,253	0.61	C
		WB	F	**8,733**	**1.01**	**F**	**11,281**	**1.31**	**F**	**11,689**	**1.36**	**F**	**11,659**	**1.35**	**F**
L	SR 4 e/o Railroad	EB	F	4,836	0.56	C	5,788	0.67	C	5,884	0.68	C	5,876	0.68	C
		WB	F	2,945	0.34	B	4,084	0.47	B	4,091	0.47	B	4,064	0.47	B

Dir denotes Direction; LOS denotes level of service; v/c denotes volume-to-capacity ratio
Bold font denotes exceedance of performance thresholds
Green highlight denotes an impacted location under either action alternative where the v/c is lower than No Action alternative
Yellow highlight denotes impacted location under either action alternative where the v/c is higher than No Action alternative
Blue highlight denotes a contributing impacted location where the v/c is lower than No Action alternative but has already exceed LOS threshold under Existing Conditions
Purple highlight denotes a contributing impacted location where the v/c is higher than No Action alternative and has already exceed LOS threshold under Existing Conditions
Calculation was based on counts; however, due to downstream congestion, actual demand on freeway mainline segments may be higher.

Table 23 Freeway Mainline Segment Level of Service – Cumulative Conditions (PM Peak Hour)

	Mainline Segment	Dir	LOS	Existing			No Action			Alternative 1			Alternative 2		
			Threshold	Volume	v/c	LOS	Volume	v/c	LOS	Volume	v/c	LOS	Volume	v/c	LOS
	Interstate 680														
A	I-680 s/o Monument Blvd	NB	F	9,553	0.82	D	9,240	0.79	D	9,179	0.79	D	9,280	0.80	D
		SB	F	7,194	0.52	B	8,963	0.65	C	9,786	0.71	C	9,867	0.67	C
B	I-680 n/o Monument Blvd	NB	F	9,676	0.75	D	9,335	0.72	C	9,301	0.72	C	9,415	0.73	C
		SB	F	7,286	0.56	C	8,944	0.69	C	9,690	0.75	D	9,768	0.76	D
C	I-680 n/o SR 242	NB	F	5,576	0.65	C	6,582	0.76	D	6,517	0.76	D	6,504	0.75	D
		SB	F	4,199	0.44	B	5,300	0.56	C	5,689	0.60	C	5,665	0.60	C
D	I-680 n/o Willow Pass Rd	NB	F	5,494	0.58	C	6,855	0.72	C	6,828	0.72	C	6,880	0.72	C
		SB	F	4,137	0.48	B	4,818	0.56	C	5,117	0.59	C	5,149	0.60	C
E	I-680 n/o Concord Ave	NB	F	5,412	0.63	C	6,780	0.79	D	6,876	0.80	D	6,909	0.80	D
		SB	F	4,075	0.43	B	4,834	0.51	B	5,049	0.53	C	5,103	0.54	C
F	I-680 n/o SR 4	NB	F	4,821	0.56	C	5,694	0.66	C	5,975	0.69	C	5,923	0.69	C
		SB	F	4,230	0.44	B	5,789	0.61	C	5,562	0.58	C	5,561	0.58	C
	SR 242														
G	SR 242 n/o I-680	NB	F	5,329	0.82	D	5,128	0.79	D	5,081	0.79	D	5,219	0.81	D
		SB	F	3,015	0.47	B	3,646	0.56	C	4,071	0.63	C	4,182	0.65	C
	SR 4														
H	SR 4 e/o SR 242	EB	F	6,341	0.74	C	7,186	0.83	D	7,064	0.82	D	7,291	0.85	D
		WB	F	2,208	0.51	B	2,913	0.68	C	3,102	0.72	C	3,786	0.88	D
I	SR 4 e/o Port Chicago Hwy	EB	F	7,029	0.82	D	**10,468**	**1.21**	**F**	**10,220**	**1.19**	**F**	**10,603**	**1.23**	**F**
		WB	F	3,007	0.35	B	4,229	0.49	B	4,932	0.57	C	6,466	0.75	D
J	SR 4 e/o Willow Pass Rd	EB	F	7,945	0.84	D	**9,841**	**1.03**	**F**	**11,999**	**1.26**	**F**	**11,941**	**1.26**	**F**
		WB	F	3,359	0.39	B	4,679	0.54	C	6,280	0.73	C	6,200	0.72	C
K	SR 4 e/o San Marco Blvd	EB	F	6,633	0.77	D	8,055	0.93	E	**9,081**	**1.05**	**F**	**9,046**	**1.05**	**F**
		WB	F	3,524	0.41	B	4,381	0.51	B	4,782	0.56	C	4,519	0.52	B
L	SR 4 e/o Railroad	EB	F	4,113	0.48	B	5,184	0.60	C	5,112	0.59	C	5,081	0.59	C
		WB	F	3,225	0.37	B	4,040	0.47	B	4,075	0.47	B	3,986	0.46	B

Capacity based on 2100 vphpl for freeway lanes, 1600 vphpl for auxiliary lanes; LOS denotes level of service; v/c denotes volume-to-capacity ratio
Bold font denotes exceedance of performance thresholds
Green highlight denotes an impacted location under either action alternative where the v/c is lower than No Action alternative
Yellow highlight denotes impacted location under either action alternative where the v/c is higher than No Action alternative
Calculation was based on counts; however, due to downstream congestion, actual demand on freeway mainline segments may be higher.
Source: Kittelson & Associates, Inc. 2014.

Table 24 Freeway Ramp Level of Service – Cumulative Conditions (AM Peak Hour)

	Ramp	LOS Threshold	Existing			No Action			Alternative 1			Alternative 2		
			V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS
	Interstate 680													
1	I-680: Willow Pass Rd NB off-ramp	D	0.68	29.36	D	0.76	32.40	D	0.78	33.24	D	0.77	32.67	D
2	I-680: Concord Av WB to NB on-ramp	D	0.51	21.55	C	0.47	20.27	C	0.49	20.99	C	0.50	21.27	C
3	I-680: Willow Pass Rd EB to SB on-ramp	D	0.53	16.58	B	0.63	19.98	B	0.64	20.52	C	0.64	20.55	C
	SR 242													
4	SR 242: Clayton Rd NB off-ramp	D	0.47	8.43	A	0.60	13.44	B	0.70	17.29	B	0.70	17.15	B
5	SR 242: Concord Av EB to NB on-ramp	D	0.49	13.42	B	0.72	21.59	C	0.85	26.29	C	0.88	27.47	C
6	SR 242: Clayton Rd SB on-ramp	D	0.78	31.24	D	0.86	34.08	D	0.85	33.54	D	0.87	34.36	D
	SR 4													
7	SR 4: Port Chicago Hwy EB off-ramp	D	0.25	10.71	B	0.55	21.59	C	0.69	27.50	C	0.79	31.03	D
8	SR 4: Port Chicago Hwy EB on-ramp	D	0.24	12.65	B	0.41	18.75	B	0.67	27.64	C	0.80	32.17	D
9	SR 4: Willow Pass Rd EB off-ramp	D	0.42	19.47	B	0.58	25.62	C	0.79	33.58	D	**1.04**	**43.11**	**F**
10	SR 4: Port Chicago Hwy WB on-ramp	D	0.48	20.99	C	0.80	32.64	D	0.87	34.80	D	**0.93**	**36.70**	**E**
11	SR 4: Port Chicago Hwy WB off-ramp	F	**1.08**	**44.57**	**F**	**1.80**	**71.74**	**F**	**1.62**	**64.78**	**F**	**1.65**	**65.92**	**F**
12	SR 4: Willow Pass Rd WB on-ramp	F	**0.96**	**37.81**	**F**	**2.20**	**81.67**	**F**	**1.88**	**70.71**	**F**	**1.95**	**73.22**	**F**
13	SR 4: Willow Pass Rd WB off-ramp	F	**1.01**	**41.98**	**F**	**1.49**	**59.94**	**F**	**1.80**	**71.95**	**F**	**1.79**	**71.31**	**F**
14	SR 4: San Marco Blvd EB off-ramp	D	0.41	7.71	A	0.65	16.81	B	0.85	24.49	C	0.85	24.31	C
15	SR 4: SB San Marco Blvd WB on-ramp	D	0.98	31.38	D	**1.81**	**60.57**	**F**	**2.11**	**71.13**	**F**	**2.10**	**70.86**	**F**
16	SR 4: NB San Marco Blvd WB on-ramp	D	0.81	32.47	D	**1.26**	**48.33**	**F**	**1.52**	**57.42**	**F**	**1.50**	**56.90**	**F**
17	SR 4: NB San Marco Blvd EB on-ramp	D	0.31	14.59	B	0.47	20.40	C	0.52	22.27	C	0.52	22.31	C
18	SR 4: San Marco Blvd WB off-ramp	D	0.78	33.10	D	**1.16**	**47.69**	**F**	**1.27**	**51.61**	**F**	**1.26**	**51.32**	**F**
19	SR 4: SB Bailey Rd EB off-ramp	D	0.35	9.62	A	0.53	16.09	B	0.67	21.58	C	0.64	20.60	C
20	SR 4: Bailey Rd WB on-ramp	D	0.88	28.45	D	**1.29**	**42.86**	**F**	**1.39**	**46.29**	**F**	**1.38**	**46.05**	**F**
21	SR 4: Railroad Ave WB on-ramp	D	0.88	34.45	D	**1.17**	**44.63**	**F**	**1.21**	**45.90**	**F**	**1.21**	**45.95**	**F**

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; v/c denotes volume-to-capacity ratio; LOS denotes level of service
Bold font denotes exceedance of performance thresholds; Green highlight denotes an impacted location under either action alternative where the v/c is lower than No Action alternative
Yellow highlight denotes impacted location under either action alternative where the v/c is higher than No Action alternative
Blue highlight denotes a contributing impacted location where the v/c is lower than No Action alternative but has already exceed LOS threshold under Existing Conditions
Purple highlight denotes a contributing impacted location where the v/ is higher than No Action alternative and has already exceed LOS threshold under Existing Conditions

Table 25 Freeway Ramp Level of Service – Cumulative Conditions (PM Peak Hour)

	Ramp	LOS Threshold	Existing			No Action			Alternative 1			Alternative 2		
			V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS
	Interstate 680													
1	I-680: Willow Pass Rd NB off-ramp	D	0.75	32.24	D	**0.97**	**40.25**	**E**	**0.97**	**40.4**	**E**	**0.97**	**40.3**	**E**
2	I-680: Concord Av WB to NB on-ramp	D	0.61	25.16	C	0.73	29.57	D	0.76	30.36	D	0.76	30.57	D
3	I-680: Willow Pass Rd EB to SB on-ramp	D	0.64	20.2	C	0.75	24.43	C	0.79	25.79	C	0.79	24.66	C
	SR 242													
4	SR 242: Clayton Rd NB off-ramp	D	0.79	20.69	C	0.8	21.04	C	0.81	21.28	C	0.82	21.91	C
5	SR 242: Concord Av EB to NB on-ramp	D	0.73	21.83	C	0.74	22.49	C	0.71	21.22	C	0.72	21.59	C
6	SR 242: Clayton Rd SB on-ramp	D	0.59	24.43	C	0.69	27.96	C	0.75	30.2	D	0.77	30.69	D
	SR 4													
7	SR 4: Port Chicago Hwy EB off-ramp	D	0.73	28.97	D	**1.58**	**60.96**	**F**	**1.43**	**55.39**	**F**	**1.55**	**59.74**	**F**
8	SR 4: Port Chicago Hwy EB on-ramp	D	0.78	31.74	D	**1.36**	**52.15**	**F**	**1.30**	**50.04**	**F**	**1.39**	**53.32**	**F**
9	SR 4: Willow Pass Rd EB off-ramp	D	**0.86**	**36.34**	**E**	**1.42**	**57.57**	**F**	1.36	**55.19**	**F**	**1.46**	**58.86**	**F**
10	SR 4: Port Chicago Hwy WB on-ramp	D	0.58	24.36	C	0.77	31.06	D	**0.97**	**37.97**	**E**	**1.02**	**39.95**	**F**
11	SR 4: Port Chicago Hwy WB off-ramp	F	0.43	19.9	B	0.59	25.82	C	0.74	31.74	D	0.96	39.85	E
12	SR 4: Willow Pass Rd WB on-ramp	F	0.41	18.37	B	0.53	22.48	C	0.60	25.07	C	0.95	37.13	E
13	SR 4: Willow Pass Rd WB off-ramp	F	0.42	19.43	B	0.57	25.32	C	0.88	37.03	E	0.85	35.70	E
14	SR 4: San Marco Blvd EB off-ramp	D	**1.09**	**33.35**	**F**	**1.36**	**43.89**	**F**	**1.75**	**58.61**	**F**	**1.75**	**58.42**	**F**
15	SR 4: SB San Marco Blvd WB on-ramp	D	0.39	10.4	B	0.53	15.57	B	0.72	22.30	C	0.75	23.05	C
16	SR 4: NB San Marco Blvd WB on-ramp	D	0.32	15.02	B	0.48	20.8	C	0.68	27.77	C	0.65	26.64	C
17	SR 4: NB San Marco Blvd EB on-ramp	D	0.65	26.89	C	0.79	32	D	**1.03**	**40.47**	**F**	**1.02**	**40.17**	**F**
18	SR 4: San Marco Blvd WB off-ramp	D	0.37	17.75	B	0.47	21.37	C	0.44	20.48	C	0.42	19.48	B
19	SR 4: SB Bailey Rd EB off-ramp	D	0.75	24.62	C	0.96	32.54	D	**1.09**	**37.62**	**F**	**1.09**	**37.46**	**F**
20	SR 4: Bailey Rd WB on-ramp	D	0.35	9.87	A	0.45	13.47	B	0.52	15.72	B	0.49	14.65	B
21	SR 4: Railroad Ave WB on-ramp	D	0.42	18.49	B	0.52	21.96	C	0.57	23.61	C	0.53	22.45	C

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; v/c denotes volume-to-capacity ratio; LOS denotes level of service
Bold font denotes exceedance of performance thresholds; Green highlight denotes an impacted location under either action alternative where the v/c is lower than No Action alternative
Yellow highlight denotes impacted location under either action alternative where the v/c is higher than No Action alternative
Blue highlight denotes a contributing impacted location where the v/c is lower than No Action alternative but has already exceed LOS threshold under Existing Conditions
Purple highlight denotes a contributing impacted location where the v/ is higher than No Action alternative and has already exceed LOS threshold under Existing Conditions

Table 26 Freeway Delay Index – Central County – Cumulative Conditions

Freeway	Peak Hour	Direction	Free Flow Speed (mph)	MTSO		Existing		No Action		Alternative 1		Alternative 2	
				Speed (mph)	Delay Index	Speed (mph)	Delay Index	Speed (mph)	Delay Index	Speed (mph)	Delay Index	Speed (mph)	Delay Index
State Route 4													
	AM	EB	65	13	5	62	1	62	1.0	59	1.1	57	1.1
	AM	WB	65	13	5	52	1.2	39	1.7	40	1.6	39	1.7
	PM	EB	65	13	5	46	1.4	44	1.5	44	1.5	43	1.5
	PM	WB	65	13	5	65	1	64	1.0	59	1.1	56	1.2
Interstate 680													
	AM	NB	65	16	4	46	1.4	45	1.5	41	1.6	41	1.6
	AM	SB	65	16	4	40	1.6	40	1.6	40	1.6	40	1.6
	PM	NB	65	16	4	44	1.5	43	1.5	43	1.5	43	1.5
	PM	SB	65	16	4	56	1.2	50	1.3	47	1.4	46	1.4
SR 242													
	AM	NB	65	22	3	50	1.3	47	1.4	40	1.6	39	1.7
	AM	SB	65	22	3	48	1.4	31	2.1	34	1.9	32	2.1
	PM	NB	65	22	3	53	1.3	49	1.3	49	1.3	47	1.4
	PM	SB	65	22	3	49	1.3	44	1.5	39	1.7	36	1.8

Source: Kittelson & Associates, 2014.

Table 27 Freeway Delay Index – East County – Cumulative Conditions (SR 4)

Freeway	Peak Hour	Direction	Free Flow Speed (mph)	MTSO		Existing		No Action		Alternative 1		Alternative 2	
				Speed (mph)	Delay Index	Speed (mph)	Delay Index	Speed (mph)	Delay Index	Speed (mph)	Delay Index	Speed (mph)	Delay Index
SR 4	AM	EB	65	26	2.5	61	1.1	54	1.2	51	1.3	51	1.3
	AM	WB	65	26	2.5	49	1.4	32	2.0	32	2.1	32	2.0
	PM	EB	65	26	2.5	46	1.4	40	1.6	38	1.7	39	1.7
	PM	WB	65	26	2.5	51	1.3	51	1.3	50	1.3	51	1.3

Source: Kittelson & Associates, 2014.

Table 28 Freeway HOV Lane Utilization – East County – Cumulative Conditions

Peak Hour	Direction	MTSO (vph)	Existing	No Action	Alternative 1	Alternative 2
			Vehicle per HOV lane per hour	Vehicle per HOV lane per hour	Vehicle per HOV lane per hour	Vehicle per HOV lane per hour
AM	WB	600	826	1,842	1,859	1,865
PM	EB	600	1,029	2,118	2,090	2,098

Source: Kittelson & Associates, 2014.

Table 29 Impact Summary

	No. of Study Locations	No. of Location Exceeding Thresholds	Number of Impacted Locations		
		Existing	No Action	Alternative 1	Alternative 2
Intersections	28	3	9	12	13
Roadway Segments	5	0	1	2	2
Freeway Mainline Segments	12	2	4	4	4
Freeway Ramps	21	5	13	16	16
MTSO Freeway Segments	4	0	0	0	0

Source: Kittelson & Associates, 2014.

4.4 IMPACTS AND MITIGATION MEASURES

Described in this section are potential impacts on intersections, roadway segments, freeway mainline segments and freeway ramps, and mitigation measures to lessen the impacts. Potential impacts are identified if the performance threshold, e.g., LOS, is exceeded when compared to Existing Conditions, or the v/c ratio is higher than that of Existing Conditions if the threshold is already exceeded under Existing Conditions. The City of Concord's policy is to implement Transportation Demand Management (TDM) measures rather than roadway widening or other measures that would increase capacities. This policy supports regional, state, and national goals and policies that address reduction of greenhouse gas emissions through reduced automobile travel and increased transit, bicycle and walk trips. However, the effects of potential TDM measures are not assumed in this analysis, unless the TDM measure, such as enhanced bus service, is inherently captured within the mode choice assumptions of the demand model. At this stage of planning for the reuse of the NWS site, no specific development plans have been proposed. To identify or attempt to measure the effect of TDM measures on traffic and transportation impacts would be speculative. Therefore, mitigation in this study is presented for context, in order to illustrate the extent of each impact, rather than as measures that would be required by the City and implemented by specific developers of the NWS site.[16]

The City of Concord's General Plan has established a policy to "use impact fees, development agreements, and other funding mechanisms to construct the transportation system and support TDM programs on the Concord Reuse NWS site, including transit services and facilities."[17] TDM programs could potentially reduce the number of vehicles on the roadway network and lessen potential impacts of the project. TDM strategies may include financial, system and demand incentives that provide reasons for motorists to switch transportation modes, carpool, eliminate or reduce the number of vehicle trips. Examples of the three types of incentives are provided below:

- Financial Incentives: employee travel allowance, parking cash out and transit pass
- System Incentives: park and ride lots, shuttle service to BART, and bicyclist facilities such as secure bicycle parking and changing areas, lockers and showers
- Demand Incentives: rideshare and vanpool programs, car- or bike-sharing programs, preferred parking for carpools, and guaranteed ride home

The specifics of such programs have not been developed and their effects are not readily quantifiable, therefore beneficial effects from these programs are not included in this analysis.

Recognizing the need to identify funding to address transportation issues that are regional in nature, such as those on the freeway facilities and RRS, TRANSPAC has established a Subregional Transportation Mitigation Fee (STMF) Program that requires developments to pay a traffic impact fee

[16] City of Concord, Concord Community Reuse Project Final EIR, January 15, 2010, p. 4-66.
[17] City of Concord, Concord 2030 General Plan, Policy T-1.2.3, p 5-23.

based on the number of trips generated. The City of Concord intends to require future developers at the NWS site to contribute to the program to address issues that have been or will be identified.[18]

4.4.1 No Action Alternative

4.4.1.1 Intersections

The No Action alternative would result in level of service below the performance thresholds at the following nine intersections:

- Farm Bureau Road and Willow Pass Road (#3)
- I-680 Northbound Off Ramp and Ygnacio Valley Road (#14)
- Willow Pass Road and Evora Road (West) (#18)
- Willow Pass Road and Avila Road (#21)
- Willow Pass Road and Evora Road (East)/SR 4 westbound off-ramp (#22)
- San Marco Boulevard/Willow Pass Road and SR 4 eastbound ramps (#23)
- Bailey Road and SR 4 eastbound ramps/BART access (#26)
- Railroad Avenue and W. Leland Road (#27)
- Kirker Pass Road and James Donlon Boulevard (#28)

The level of service at the Bailey Road and SR 4 eastbound ramps/BART access (#26) intersection is already LOS F under existing conditions. The volume to capacity ratio is projected to increase in the future.

4.4.1.2 Roadway Segments

Under the No Action alternative, the Bailey Road segment east of Concord Boulevard (B) would exceed the performance threshold during the AM peak hour.

4.4.1.3 Freeway Mainline Segments

The results indicate that the SR 4 portion between Bailey Road and SR 242 is projected to be over capacity in the westbound direction in the AM peak hour; while a shorter portion between Port Chicago Highway and San Marco Boulevard would be over capacity in the eastbound direction in the PM peak hour. Four westbound segments would operate at LOS F in the AM peak hour and two eastbound segments would have LOS F conditions in the PM peak hour:

- SR 4 east of SR 242 (H)
    - Westbound (AM)
- SR 4 east of Port Chicago Highway (I)

[18] City of Concord, Concord Community Reuse Project Final EIR, January 15, 2010.

  - Westbound (AM)
  - Eastbound (PM)
- SR 4 east of Willow Pass Road (AM) (J)
  - Westbound (AM)
  - Eastbound (PM)
- SR 4 east of San Marco Boulevard (K)
  - Westbound (AM)

4.4.1.4 Freeway Ramps

In the AM peak hour, eight ramps serving westbound SR 4 would be below LOS performance threshold with the No Action alternative, while in the PM peak hour, one ramp serving Interstate 680 and four ramps serving SR 4 would be below LOS performance thresholds with the No Action alternative:

- SR 4 westbound on ramps from (AM):
  - Willow Pass Road (#12)
  - Southbound San Marco Boulevard (#15)
  - Northbound San Marco Boulevard (#16)
  - Bailey Road (#20)
  - Railroad Avenue (#21)
- SR 4 westbound off-ramps to (AM):
  - Port Chicago Highway (#11)
  - Willow Pass Road (#13)
  - San Marco Boulevard (#18)
- I-680 northbound off-ramp to (PM):
  - Willow Pass Road (#1)
- SR 4 eastbound off ramps to (PM):
  - Port Chicago Highway (#7)
  - Willow Pass Road (#9)
  - San Marco Boulevard (#14)
- SR 4 eastbound on-ramps from (PM):
  - Port Chicago Highway (#8)

The heavy ramp volumes in the peak direction of SR 4 may be attributed to congestion on the freeway mainline segment, which would prompt some motorists to seek alternative routes. These motorists would exit and re-enter the freeway depending on traffic conditions to travel to parallel routes such as Willow Pass Road, Evora Road, and W. Leland Road; thereby adding traffic to the merge and diverge areas of the freeway thus contributing to the unstable freeway condition.

4.4.1.5 MTSO Segment Delay Index

The delay index along the Central and East county corridors of Interstate 680, SR 4 and SR 242 and the HOV lane utilization in East County would also be within MTSO standards under the No Action alternative.

4.4.2 Alternative 1: Concord Reuse Project Area Plan

4.4.2.1 Intersections

A total of twelve intersections would be impacted by the implementation of Alternative 1. They include all impacted locations under the No Action Alternative with the exception of Farm Bureau Road and Willow Pass Road (#3) intersection and the following four intersections:

- Port Chicago Highway and Panoramic Drive (#1)
- Willow Pass Road and SR 4 westbound ramps (#19)
- Willow Pass Road and SR 4 eastbound ramps (#20)
- San Marco Boulevard and West Leland Road (#24)

At Farm Bureau Road and Willow Pass Road (#3) intersection, it is projected that level of service would improve to within standards with implementation of Alternative 1 due to increased availability of alternative routes resulting fromthe proposed roadway network and related connectivity on the NWS site.

Impact 1-1: The addition of traffic generated by full development of Alternative 1 would cause **Port Chicago Highway and Panoramic Drive (#1)** intersection to degrade to LOS F during both AM and PM peak hours.

Mitigation Measure 1-1: Implementation of the following measures would result in LOS E conditions, which is within the performance threshold:

- Widen the east leg on Panoramic Drive to add one westbound right turn lane to provide two left-turn lanes, one shared through-right turn lane, and two right-turn lanes;
- Convert the northbound exclusive right-turn lane to a shared through-right turn lane; and
- Widen the north leg on Point Chicago Highway to accommodate three northbound receiving lanes.

Because Port Chicago Highway is constrained by the BART track, implementation may not be feasible.

Impact 1-2: The addition of traffic generated by full development of Alternative 1 would contribute to future substandard conditions at **I-680 Northbound Off Ramp and Ygnacio Valley Road (#14)** intersection during both AM and PM peak hours. However, the v/c ratio is the same as or lower than that of the No Action alternative.

Mitigation Measure 1-2: Accounting for the right-turn on red movements after stop for the northbound approach from the off-ramp to Ygnacio Valley Road would improve the intersection to LOS E (v/c 0.99 or less) in the AM and PM peak hour, which would meet the performance threshold of LOS E.

Impact 1-3: The addition of traffic generated by full development of Alternative 1 would contribute to future substandard conditions at **Willow Pass Road and Evora Road (West) (#18)** intersection during both AM and PM peak hours.

Mitigation Measure 1-3: Implementation of the following measures would improve the intersection to LOS F (v/c 1.19) in the AM peak hour and LOS D (v/c 0.84) in the PM peak hour, which are better than the results of the No Action alternative, but would still exceed the performance threshold of LOS mid-D in the AM peak hour:

- Widen the west leg on Evora Road to add a shared through-right lane on the eastbound approach to provide one shared left-through lane and one shared through-right lane;
- Widen the east leg on Evora Road to add one exclusive left-turn lane on the westbound approach to provide two left-turn lanes and one shared through-right lane;
- Widen the south leg on Willow Pass Road to add an exclusive left-turn lane on the northbound approach to provide one left-turn lane, one shared left-through lane, and one free right-turn lane; and
- Widen the east leg to provide a dedicated receiving lane for the free northbound right-turn traffic and a receiving lane for the eastbound through traffic.

Further widening of Evora Road to accommodate triple left-turn lanes and double right-turn lanes would improve results to be within the performance threshold. This widening may not be feasible due to right of way constraints.

Impact 1-4: The addition of traffic generated by the full development of Alternative 1 would cause the **Willow Pass Road and SR 4 westbound ramps (#19)** intersection to degrade to LOS F during the AM peak hour.

Mitigation Measure 1-4: Implementation of the following measures would result in LOS D (v/c 0.83) in the AM peak hour which is within the performance threshold:

- Widen the north leg on Willow Pass Road to add one southbound through lane to provide three through lanes and one right-turn lane;
- Widen the east leg of the SR 4 off-ramp to add one westbound left-turn lane and to convert the shared left-through lane to a shared left-through-right turn lane to provide two left-turn lanes, one shared left-through-right turn lane, and one right-turn lane; and
- Widen the south left on Willow Pass Road to accommodate three southbound receiving lanes.

Impact 1-5: The addition of traffic generated by the full development of Alternative 1 would cause **Willow Pass Road and SR 4 eastbound ramps (#20)** intersection to degrade to LOS E in the PM peak hour.

Mitigation Measure 1-5: Implementation of the following measures would result in LOS D (v/c 0.85) and LOS C (0.79) in the AM and PM peak hour, respectively, which are at or better than the performance threshold:

- Add one additional southbound left-turn lane to provide two left-turn lanes and two through lanes; and
- Modify the east leg to accommodate two eastbound receiving lanes.

Impact 1-6: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions at **Willow Pass Road and Avila Road (#21)** intersection during both AM and PM peak hours.

Mitigation Measure 1-6: Implementation of the following measures would improve the v/c ratio to 1.03 and 1.02 in the AM and PM peak hours, respectively, which are better than No Action conditions but the results would remain at LOS F and would exceed the performance threshold:

- Convert the westbound right-turn lane on Avila Road to a shared through-right turn lane to provide one left turn lane, one through lane, and one shared through-right turn lane;
- Convert the eastbound right-turn lane on Avila Road to a shared through-right turn lane to provide one left turn lane, one through lane, and one shared through-right turn lane; and
- Widen the east leg and the west leg on Avila Road to accommodate two receiving lanes in either direction.

Further enlargement of the intersection would improve the results to lower than the performance threshold. Further widening of Willow Pass Road to one additional through lane on both northbound and southbound directions; as well as providing two southbound right-turn lanes and two westbound left-turn lanes would improve the results to below performance thresholds in both peak hours. However, such improvement may not be feasible due to right-of-way constraints.

Impact 1-7: The addition of traffic generated by full development of Alternative 1 would contribute to future substandard conditions of LOS F at **Willow Pass Road and Evora Road (East)-SR 4 westbound off-ramp (#22)** intersection during the AM peak hour.

Mitigation Measure 1-7: Implementation of the following measures would improve the intersection to LOS E, which is better than the No Action alternative but it would still exceed the performance threshold:

- Convert one northbound through lane on Willow Pass Road to a left-turn lane to provide two left-turn lanes and two through lanes; and
- Convert the southbound shared through-right lane on Willow Pass Road to an exclusive right-turn lane to provide three through lanes and one right-turn lane.

Widening Willow Pass Road to provide four southbound through lanes and two right-turn lanes would improve the results to meet the performance threshold. However, the right-of-way may be constrained by a creek, making this measure infeasible to implement.

Impact 1-8: The addition of traffic generated by full development of Alternative 1 would cause **San Marco Boulevard-Willow Pass Road and SR 4 eastbound ramps (#23)** intersection to degrade from LOS D to LOS F in the AM peak hour and contribute to future substandard LOS F condition in the PM peak hour.

Mitigation Measure 1-8: Implementation of the following measure would improve the intersection to LOS D (v/c 0.85 and 0.81) in both peak hours which are within the performance threshold of LOS mid-D:

- Add one eastbound right-turn lane and convert one of the left-turn lanes to a shared left-right turn lane at the SR 4 off-ramp to provide one left-turn lane, one shared left-right turn lane and two right-turn lanes; and
- Widen the south leg on Willow Pass Road to accommodate three receiving lanes.

Impact 1-9: The addition of traffic generated by full development of Alternative 1 would cause **San Marco Boulevard and West Leland Road (#24)** intersection to degrade to below the 0.85 v/c threshold for LOS mid-D in the AM peak hour.

Mitigation Measure 1-9: Implementation of the following measure would improve the intersection to LOS D (v/c 0.85) in the AM peak hour, which is within the performance threshold of LOS mid-D:

- Modify signal timing to allow for only permitted left-turns for eastbound approach.

Other measures such as widening approaches to allow for additional through lanes on San Marco Boulevard or West Leland Road would improve the results to lower than the LOS mid-D threshold, but would significantly enlarge the intersection and would not be considered feasible due to right-of-way constraints.

Impact 1-10: The addition of traffic generated by full development of Alternative 1 would contribute to substandard conditions in the PM peak hour at **Bailey Road and SR 4 eastbound ramps-BART access (#26)** intersection, which would have LOS F with a v/c ratio of 1.11 under Existing Conditions and 1.36 under No Action conditions.

Mitigation Measure 1-10: Implementation of the following measure would reduce the v/c ratio to 1.11 which is below No Action conditions and the same as Existing Conditions:

- Convert the eastbound through lane to an exclusive left-turn lane from the BART access road and widen the SR-4 eastbound off-ramp to add a right-turn lane to provide one left-turn lane, one shared left-through lane, and two right-turn lanes on the westbound approach;

- Remove one of the southbound left-turn lanes to provide one left turn lane, two through lanes and one right-turn lane on the southbound approach; and
- Modify the traffic signal to provide protected left-turn phasing.

Due to right-of-way constraints, implementation of these measures may be infeasible.

Impact 1-11: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard LOS D and LOS E conditions in the AM and PM peak hours at the **Railroad Avenue and W. Leland Road (#27)** intersection. However, the v/c ratio of 0.86 in the AM peak hour under Alternative 1 is lower than that of No Action conditions (0.88).

Mitigation Measure 1-11: Implementation of the following measure would improve the intersection to LOS C in the AM peak hour and LOS D (v/c 0.81) in the PM peak hour, which is within the performance threshold of LOS mid-D:

- Widen the north leg on Railroad Avenue to add a southbound left-turn lane to provide two left-turn lanes, two through lanes and one right-turn lane; and
- Widen the west leg on W. Leland Road to add an eastbound right-turn lane to provide one left-turn lane, two through lanes and one right-turn lane.

The intersection is constrained by existing land uses so that implementation may be infeasible.

Impact 1-12: The addition of traffic generated by the full development of Alternative 1 would contribute to future LOS F substandard conditions in the AM peak hour and would degrade the service level from LOS D to LOS F in the PM peak hour at the **Kirker Pass Road and James Donlon Boulevard (#28)** intersection.

Mitigation Measure 1-12: Implementation of the following measure would improve the intersection to LOS D in the AM and PM peak hours, which is better than the No Action, but would still exceed the performance threshold of mid-LOS D:

- Convert the westbound right-turn lane to a shared left-right turn lane to provide one shared left turn lane and one shared left-right turn lane on the westbound approach on James Donlon Boulevard.

4.4.2.2 Roadways

Under Alternative 1 conditions, the service levels of two segments would exceed LOS performance thresholds. The segment of Baily Road east of Concord Boulevard (B) would experience LOS E during the AM peak hour where the performance threshold is LOS D. The segment of Port Chicago Highway north of Olivera Road (D) would degrade to LOS F conditions during both AM and PM peak hours under Alternative 1 where the threshold is LOS E.

Impact 1-13: The addition of traffic generated by the full development of Alternative 1 would cause the level of service along **the Bailey Road segment east of Concord Boulevard (B)** to degrade to LOS E

during the AM peak hour. However, the v/c ratio under Alternative 1 is lower than that of the No Action alternative, which would experience LOS F conditions. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 1-13: None identified**.**

Impact 1-14: The addition of traffic generated by full development of Alternative 1 would cause level of service along **the Port Chicago Highway segment north of Olivera Road (D)** to degrade to LOS F, which exceeds performance threshold during both peak hours.

Mitigation Measure 1-14: Widening Port Chicago Highway to provide two travel lanes in each direction would improve the level of service to within the performance threshold; however, the roadway is constrained by BART tracks so implementation may be infeasible.

4.4.2.3 Freeway Mainline Segments

The same four westbound segments of SR 4 impacted under the No Action alternative during the AM peak hour would also have LOS F condition with the implementation of Alternative 1 and the same two eastbound segments impacted under the No Action alternative during the PM peak hour would also have LOS F conditions with the implementation of Alternative 1. Furthermore, the eastbound SR 4 segment east of San Marco Boulevard would degrade to LOS F in the PM peak hour where it would have LOS E conditions with the No Action alternative.

Impact 1-15: The addition of traffic generated by full development of Alternative 1 would contribute to future substandard conditions along the **SR 4 segment east of SR 242 (H)** in the westbound direction **i**n the AM peak hour. However, the v/c ratio under Alternative 1 is lower than that of the No Action alternative. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 1-15: None identified.

Impact 1-16: The addition of traffic generated by full development of Alternative 1 would contribute to future substandard conditions along the **SR 4 segment east of Port Chicago Highway (I)** in the westbound direction **i**n the AM peak hour and in the eastbound direction in the PM peak hour. However, the v/c ratio under Alternative 1 is lower than that of the No Action alternative. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 1-16: None identified.

Impact 1-17: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions along the **SR 4 segment east of Willow Pass Road (J)** in the westbound direction **i**n the AM peak hour and in the eastbound direction in the PM peak hour.

Mitigation Measure 1-17: Implementation of the ramp metering project scheduled for September 2013 may improve congestion on SR 4; however, any potential effects are not included in the analysis. Widening SR 4 to increase capacity on the segment would improve the conditions to within performance standard. However, such improvement has not been planned or programmed by the agencies responsible for freeway network operations. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 1-18: The addition of traffic generated by full development of Alternative 1 would contribute to future substandard conditions along the **SR 4 segment east of San Marco Boulevard (K)** in the westbound direction in the AM peak hour and would cause the eastbound direction along the same segment to degrade to LOS F in the PM peak hour.

Mitigation Measure 1-18: Implementation of the ramp metering project scheduled for September 2013 may improve congestion on SR 4; however, any potential effects are not included in the analysis. Widening SR 4 to increase capacity on the segment would improve the conditions to within performance standard. However, such improvement has not been planned or programmed by the agencies responsible for freeway network operations. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

4.4.2.4 Freeway Ramps

The results indicate that Alternative 1 would have considerable effect on ramps serving SR 4 during both AM and PM peak hours even though most of these ramps would experience substandard conditions even under No Action alternative. In the AM peak hour, the same eight ramps that would be impacted under No Action scenario would also have LOS F condition with the implementation of Alternative 1. Similarly, in the PM peak hour, the same five ramps that would be adversely affected under No Action scenario would also experience substandard conditions with the implementation of Alternative 1. Further, three SR 4 ramps would degrade to substandard conditions in the PM peak hours where they would have LOS D under No Action alternative. The westbound on-ramp from Port Chicago Highway (#10) would experience LOS E; while the eastbound on-ramp from northbound San Marco Boulevard (#17) and the eastbound off-ramp to southbound Bailey Road (#19) would degrade to LOS F.

Impact 1-19: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **Interstate 680 northbound off-ramp onto Willow Pass Road (#1)** in the PM peak hour. However, the v/c ratio remains the same as that of the No Action alternative. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 1-19: None identified.

Impact 1-20: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 eastbound off-ramp to Port Chicago Highway (#7)** in the PM peak hour. However, the v/c ratio is lower than that of the No Action alternative. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 1-20: None identified.

Impact 1-21: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 eastbound on-ramp from Port Chicago Highway (#8)** in the PM peak hour. However, the v/c ratio is lower than that of the No Action alternative. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 1-21: None identified.

Impact 1-22: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 eastbound off-ramp to Willow Pass Road (#9)** in the PM peak hour. However, the v/c ratio is lower than that of the No Action alternative. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 1-22: None identified.

Impact 1-23: The addition of traffic generated by the full development of Alternative 1 would cause **SR 4 westbound on-ramp from Port Chicago Highway (#10)** to degrade to LOS E in the PM peak hour. The increased volume on the ramp due to Alternative 1 results in a v/c of 0.97 and density of 37.97 passenger car per mile per lane (pc/mi/ln), which exceeds the LOS D threshold of 35 pc/mi/ln.

Mitigation Measure 1-23: No improvement has been planned or programmed to address this issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities and support alternative modes.

Impact 1-24: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 westbound off-ramp to Port Chicago Highway (#11)** in the AM peak hour. However, the v/c ratio is lower than that of the No Action alternative. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 1-24: None identified.

Impact 1-25: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 westbound on-ramp from Willow Pass Road (#12)** in the AM peak hour. However, the v/c ratio is lower than that of the No Action alternative. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 1-25: None identified.

Impact 1-26: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 westbound off-ramp to Willow Pass Road (#13)** in the AM peak hour.

> **Mitigation Measure 1-26:** This interchange is programmed to be reconstructed to improve access and is currently scheduled for completion by 2020.[19,20] The improvement may alleviate the substandard conditions of this ramp. However, any potential effects are not included in this analysis because details of the project are not known at this time.

Impact 1-27: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 eastbound off-ramp onto San Marco Boulevard (#14)** in the PM peak hour. The heavy ramp volume may be attributed to motorists intending to use parallel routes to avoid congestion on SR 4 to the east and are leaving the freeway mainline at this point.

> **Mitigation Measure 1-27:** No improvement has been planned or programmed to address this regional corridor issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 1-28: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 westbound on-ramp from southbound San Marco Boulevard (#15)** in the AM peak hour. The heavy ramp volume may be attributed to some motorists using parallel routes to avoid congestion on SR 4 to the east and are entering the freeway at this point.

> **Mitigation Measure 1-28:** No improvement has been planned or programmed to address this regional corridor issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 1-29: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 westbound on-ramp from northbound San Marco Boulevard (#16)** in the AM peak hour. The heavy ramp volume on this single-lane on-ramp may be attributed to motorists using parallel routes to avoid congestion on SR 4 to the east and are entering the freeway at this point.

> **Mitigation Measure 1-29:** No improvement has been planned or programmed to address this regional corridor issue. Future developers of the NWS site would contribute to TRANSPAC's

[19] Metropolitan Transportation Commission, Final Transportation 2035 Plan, April 22, 2009.
[20] Contra Costa Transportation Authority, Measure J Strategic Plan – July 2011 Project Fact Sheet: Willow Pass Road/SR 4 Ramp Reconstruction.

STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 1-30: The addition of traffic generated by the full development of Alternative 1 would cause **SR 4 eastbound on-ramp from northbound San Marco Boulevard (#17)** to degrade to LOS F in the PM peak hour. The heavy ramp volume on this single-lane on-ramp may be attributed to motorists using parallel routes to avoid congestion on SR 4 to the west and are re-entering the freeway at this point.

Mitigation Measure 1-30: No improvement has been planned or programmed to address this regional corridor issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities.

Impact 1-31: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 westbound off-ramp onto San Marco Boulevard (#18)** in the AM peak hour. The heavy ramp volume may be attributed to motorists intending to use parallel routes to avoid congestion on SR 4 to the west and are leaving the freeway mainline at this point.

Mitigation Measure 1-31: No improvement has been planned or programmed to address this regional corridor issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities.

Impact 1-32: The addition of traffic generated by the full development of Alternative 1 would cause **SR 4 eastbound off-ramp to southbound Bailey Road (#19)** to degrade to LOS F in the PM peak hour. The increased volume on the ramp due to Alternative 1 results in a v/c of 1.09 and density of 37.62 passenger car per mile per lane (pc/mi/ln), which exceeds the LOS D threshold of 35 pc/mi/ln.

Mitigation Measure 1-32: No improvement has been planned or programmed for this location. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities.

Impact 1-33: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 westbound on-ramp from Bailey Road (#20)** in the AM peak hour. The ramp condition may be attributed to high volumes on both the ramp merge area and the mainline onto where traffic is merging.

Mitigation Measure 1-33: No improvement has been planned or programmed for this location. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities.

Impact 1-34: The addition of traffic generated by the full development of Alternative 1 would contribute to future substandard conditions on **SR 4 westbound on-ramp from Railroad Avenue (#21)** in the AM peak hour. The ramp condition may be attributed to high volumes on both the ramp merge area and the mainline onto where traffic is merging.

> **Mitigation Measure 1-34:** No improvement has been planned or programmed for this location. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities.

4.4.2.5 MTSO Segment Delay Index

The delay index along the Central County and East County corridors of Interstate 680, SR 4 and SR 242 would be within MTSO standards with the implementation of Alternative 1. The HOV lane utilization on SR 4 in East County would also meet the MTSO standard.

4.4.3 Alternative 2: Intensified Reuse

4.4.3.1 Intersections

A total of thirteen intersections would be impacted by the implementation of Alternative 2. All of these intersections are also impacted under Alternative 1, with the exception of the intersection of Farm Bureau Road and Willow Pass Road (#3), which would degrade to LOS E during the PM peak hour.

Impact 2-1: The addition of traffic generated by the full development of Alternative 2 would cause **Port Chicago Highway and Panoramic Drive (#1)** to degrade to LOS F during both AM and PM peak hours.

> **Mitigation Measure 2-1:** Implementation of Mitigation Measure 1-1 would result in LOS E in the AM and PM peak hours, improving the intersection to within the performance threshold. However, due to physical constraints, implementation of the mitigation measure may be infeasible.

Impact 2-2: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions at **Farm Bureau Road and Willow Pass Road (#3)** intersection during the PM peak hour. However, the v/c ratio is less than that of the No Action alternative.

> **Mitigation Measure 2-2:** Implementation of the following measure would improve the intersection to LOS D in the PM peak hour, which is within the performance threshold of LOS D:
>
> - Restripe the southbound approach of E. Olivera Road to add a second lane turn lane to provide two left-turn lanes, one through lane and one right-turn lane.
>
> The intersection is constrained by existing land uses along Willow Pass Road and the adjacent Contra Costa Canal, so that implementation may be infeasible.

Impact 2-3: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions at **I-680 Northbound Off Ramp and Ygnacio Valley Road (#14)** intersection during both AM and PM peak hours. However, the v/c ratios are the same as or lower than that of the No Action alternative.

Mitigation Measure 2-3: Implementation of Mitigation Measure 1-2 would improve the intersection to LOS E (v/c 0.99 or less) in the AM and PM peak hour, which would meet the performance threshold of LOS E.

Impact 2-4: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard LOS F condition at **Willow Pass Road and Evora Road (West) (#18)** intersection during both AM and PM peak hours.

Mitigation Measure 2-4: Implementation of the following measures would improve the intersection to LOS F (v/c 1.39) in the AM peak hour and LOS D (v/c 0.82) in the PM peak hour which are the same or better as the results of the No Action alternative but would still exceed the performance threshold of LOS mid-D in the AM peak hour:

- Widen the west leg on Evora Road to add two exclusive right-turn lanes on the eastbound approach to provide one shared left-through lane and two right-turn lanes;
- Widen the east leg on Evora Road to add one exclusive left-turn lane on the westbound approach to provide two left-turn lanes and one shared through-right lane
- Widen the south leg on Willow Pass Road to add an exclusive left-turn lane on the northbound approach to provide one left-turn lane, one shared left-through lane, and one free right-turn lane; and
- Widen the east leg to provide a dedicated lane to receive free northbound right-turn traffic.

Significant enlargement of the intersection to accommodate quadruple left-turn lanes would improve the results to be within the performance threshold. These improvements are not considered to be feasible due to right-of-way constraints.

Impact 2-5: The addition of traffic generated by full development of Alternative 2 would cause **Willow Pass Road and SR 4 westbound ramps (#19)** intersection to degrade to LOS F during the AM peak hour.

Mitigation Measure 2-5: Implementation of Mitigation Measure 1-4 would result in LOS D (v/c 0.84) in the AM peak hour which is within the performance threshold.

Impact 2-6: The addition of traffic generated by the full development of Alternative 2 would cause **Willow Pass Road and SR 4 eastbound ramps (#20)** intersection to degrade to LOS F in the AM peak hour and LOS E in the PM peak hour.

Mitigation Measure 2-6: Implementation of the following measures would result in LOS C in the AM and PM peak hours which are better than the performance threshold:

- Add one eastbound left-turn lane on the SR 4 off-ramp to provide one left-turn lane, one shared left-through lane, and one right-turn lane; and
- Convert one southbound left-turn lane to a through lane on Willow Pass Road to provide one left-turn lane and three through lanes;
- Widen the south leg to accommodate two southbound receiving lanes.

Impact 2-7: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard LOS F condition at **Willow Pass Road and Avila Road (#21)** intersection during both AM and PM peak hours.

Mitigation Measure 2-7: Implementation of the following measures would improve the intersection to LOS F (v/c 1.01) in the AM peak hour and LOS D (v/c 0.89) in the PM peak hour, which are better than No Action conditions; but the results would still exceed the performance threshold of LOS mid-D:

- Convert the westbound right-turn lane to a shared through-right turn lane on Avila Road to provide one left turn lane, one through lane, and one shared through-right turn lanes;
- Add an eastbound left-turn lane on Avila Road to provide two left turn lanes, one through lane, and one shared through-right turn lane; and
- Widen the east leg and the west leg on Avila Road to accommodate two receiving lanes.

Widening of both Willow Pass Road and Avila Road to provide three through lanes on the westbound and northbound approaches would improve the service levels to be within performance thresholds.

Impact 2-8: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard LOS F condition at **Willow Pass Road and Evora Road (East)-SR 4 westbound off-ramp (#22)** intersection during the AM peak hour.

Mitigation Measure 2-8: Implementation of Mitigation Measure 1-7 would reduce the v/c from 1.26 to 1.00 but the service level would remain at LOS F in the AM Peak hour. While this is better than the No Action alternative, it would still exceed the performance threshold of LOS mid-D.

Widening Willow Pass Road and Evora Road to accommodate three northbound left-turn lanes and an exclusive southbound right-turn lane would improve the results to meet the performance threshold. However, such a measure may be infeasible due to the right-of-way constraints.

Impact 2-89: The addition of traffic generated by full development of Alternative 2 would cause **San Marco Boulevard-Willow Pass Road and SR 4 eastbound ramps (#23)** intersection to degrade to LOS F in the AM peak hour and contribute to future substandard LOS F conditions in the PM peak hour.

Mitigation Measure 2-9: Implementation of Mitigation Measure 1-8 would improve the intersection to LOS D (v/c 0.85) in the AM peak hour and LOS C in the PM peak hour, which are within the performance threshold of LOS mid-D.

Impact 2-10: The addition of traffic generated by full development of Alternative 2 would cause **San Marco Boulevard and West Leland Road (#24)** intersection to degrade to below the 0.85 v/c threshold for LOS mid-D in the AM and PM peak hour.

> **Mitigation Measure 2-10:** Implementation of Mitigation Measure 1-9 would improve the intersection to LOS C (v/c 0.79) and LOS D (v/c 0.82) in the AM and PM peak hours, which is within the performance threshold of LOS mid-D.

Impact 2-11: The addition of traffic generated by full development of Alternative 2 would contribute to substandard LOS F conditions in the PM peak hour at **Bailey Road and SR 4 eastbound ramps-BART access (#26)** intersection.

> **Mitigation Measure 2-11:** Implementation of Mitigation Measure 1-10 would improve the intersection to LOS F with a v/c ratio of 1.10 in the PM peak hour which is better than Existing Conditions. However, implementation of the measure may be infeasible due to physical constraints.

Impact 2-12: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard LOS D and LOS E conditions in the AM and PM peak hours at **Railroad Avenue and W. Leland Road (#27)** intersection. However, the v/c ratio of 0.87 in the AM peak hour under Alternative 2 is lower than that of No Action conditions (0.88).

> **Mitigation Measure 2-12:** Implementation of Mitigation Measure 1-11 would improve the intersection to LOS D in both AM (v/c 0.80) and PM (v/c 0.83) peak hours, which are within the performance threshold of LOS mid-D. However, the intersection is constrained by existing land uses so that implementation may be infeasible.

Impact 2-13: The addition of traffic generated by full development of Alternative 2 would contribute to future LOS F substandard conditions in the AM peak hour and would degrade the service level from LOS D to LOS F in the PM peak hour at **Kirker Pass Road and James Donlon Boulevard (#28)** intersection.

> **Mitigation Measure 2-13:** Implementation of Mitigation Measure 1-12 would improve the intersection to LOS D in both AM and PM peak hours, which better than the No Action, but would still exceed the performance threshold of mid-LOS D.

4.4.3.2 Roadways

Similar to Alternative 1, the service levels of two segments would exceed LOS performance thresholds. The segment of Baily Road east of Concord Boulevard would experience LOS E during the AM peak hour where the performance threshold is LOS D. The segment of Port Chicago Highway north of Olivera Road would degrade to LOS F conditions during both AM and PM peak hours under Alternative 2 where the threshold is LOS E.

Impact 2-14: The addition of traffic generated by full development of Alternative 2 would cause the level of service along **the Bailey Road segment east of Concord Boulevard (B)** to degrade to LOS E during the AM peak hour. However, the v/c ratio under Alternative 2 is lower than that of the No Action alternative, which would experience LOS F conditions. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 2-14: None identified**.**

Impact 2-15: The addition of traffic generated by the full development of Alternative 2 would cause level of service along the **Port Chicago Highway segment north of Olivera Road (D)** to degrade to LOS F, which exceeds performance threshold during both peak hours.

Mitigation Measure 2-15: Implementation of Mitigation Measure 1-14 would improve the level of service to within the performance threshold; however, the roadway is constrained by BART tracks so implementation may be infeasible.

4.4.3.3 Freeway Mainline Segments

The same freeway mainline segments affected under Alternative 1 would also experience LOS F conditions with the implementation of Alternative 2 during both peak hours.

Impact 2-16: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions along the **SR 4 segment east of SR 242 (H)** in the westbound direction **i**n the AM peak hour. However, the v/c ratio under Alternative 2 is lower than that of the No Action alternative. Therefore, it is not considered to be an adverse impact.

Mitigation Measure 2-16: None identified**.**

Impact 2-17: The addition of traffic generated by the full development of Alternative 2 would contribute to future substandard conditions along the **SR 4 segment east of Port Chicago Highway (I)** in the westbound direction in the AM peak hour and in the eastbound direction in the PM peak hour. While the v/c ratio under Alternative 2 is lower than that of the No Action alternative in the AM peak hour; the v/c ratio is higher than No Action alternative in the PM peak hour. Therefore, the effect of Alternative 2 is considered to be adverse in the PM peak hour.

Mitigation Measure 2-17: Implementation of the ramp metering project scheduled for September 2013 may improve congestion on SR 4; however, any potential effects are not included in the analysis. Widening SR 4 to increase capacity on the segment would improve conditions to within performance standard. However, such improvement has not been planned or programmed by the agencies responsible for freeway network operations. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 2-18: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions along the **SR 4 segment east of Willow Pass Road (J)** in the westbound direction in the AM peak hour and in the eastbound direction in the PM peak hour.

> **Mitigation Measure 2-18:** Implementation of the ramp metering project scheduled for September 2013 may improve congestion on SR 4; however, any potential effects are not included in the analysis. Widening SR 4 to increase capacity on the segment would improve the conditions to within performance standard. However, such improvement has not been planned or programmed by the agencies responsible for freeway network operations. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 2-19: The addition of traffic generated by the full development of Alternative 2 would contribute to future substandard conditions along the **SR 4 segment east of San Marco Boulevard (K)** in the westbound direction in the AM peak hour and would cause the eastbound direction along the same segment to degrade to LOS F in the PM peak hour.

> **Mitigation Measure 2-19**: Implementation of the ramp metering project scheduled for September 2013 may improve congestion on SR 4; however, any potential effects are not included in the analysis. Widening SR 4 to increase capacity on the segment would improve the conditions to within performance standard. However, such improvement has not been planned or programmed by the agencies responsible for freeway network operations. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

4.4.3.4 Freeway Ramps

The same freeway ramps impacted under Alternative 1 would also have substandard conditions with the implementation of Alternative 2 during either the AM or PM peak hour. Furthermore, the results indicate that two SR 4 locations - eastbound off ramp to Willow Pass Road (#9) and westbound on-ramp from Port Chicago Highway (#10) – are projected to experience substandard conditions during the AM peak hour under Alternative 2.)

Impact 2-20: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **Interstate 680 northbound off-ramp onto Willow Pass Road (#1)** in the PM peak hour. However, the v/c ratio is the same as that of the No Action alternative. Therefore, the impact is not considered to be adverse.

> **Mitigation Measure 2-20:** None identified.

Impact 2-21: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **SR 4 eastbound off-ramp to Port Chicago Highway (#7)** in the PM peak hour. However, the v/c ratio is lower than that of the No Action alternative. Therefore, the impact is not considered to be adverse.

Mitigation Measure 2-21: None identified.

Impact 2-22: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **SR 4 eastbound on-ramp from Port Chicago Highway (#8)** in the PM peak hour.

Mitigation Measure 2-22: No improvement has been planned or programmed for this location. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 2-23: The addition of traffic generated by full development of Alternative 2 would cause **SR 4 eastbound off-ramp to Willow Pass Road (#9)** to degrade to LOS F in the AM peak hour and contribute to future substandard conditions in the PM peak hour.

Mitigation Measure 2-23: This interchange is programmed to be reconstructed to improve access and is currently scheduled for completion by 2020.[21,22] The improvement may alleviate the substandard conditions of this ramp. However, any potential effects are not included in this analysis because details of the project are not known at this time.

Impact 2-24: The addition of traffic generated by full development of Alternative 2 would cause **SR 4 westbound on-ramp from Port Chicago Highway (#10)** to degrade to LOS E in the AM peak hour and LOS F in the PM peak hour. The increased volume on the ramp due to Alternative 2 results in a v/c of 0.93 and density of 36.70 passenger car per mile per lane (pc/mi/ln) during the AM peak hour and a v/c of 1.02 and density of 39.95 pc/mi/ln in the PM, which exceeds the LOS D threshold of 35 pc/mi/ln.

Mitigation Measure 2-24: No improvement has been planned or programmed to address this issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities.

Impact 2-25: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **SR 4 westbound off-ramp to Port Chicago Highway (#11)** in the AM peak hour. Since the v/c ratio is lower than that of the No Action alternative in the AM peak hour, the effect of Alternative 2 in the AM peak hour is not considered to be an adverse impact.

Mitigation Measure 2-25: None identified.

Impact 2-26: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **SR 4 westbound on-ramp from Willow Pass Road (#12)** in the AM

[21] Metropolitan Transportation Commission, Final Transportation 2035 Plan, April 22, 2009.
[22] Contra Costa Transportation Authority, Measure J Strategic Plan – July 2011 Project Fact Sheet: Willow Pass Road/SR 4 Ramp Reconstruction.

peak hour. Since the v/c ratio is lower than that of the No Action alternative in the AM peak hour, the effect of Alternative 2 in the AM peak hour is not considered to be an adverse impact.

Mitigation Measure 2-26: None identified.

Impact 2-27: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **SR 4 westbound off-ramp to Willow Pass Road (#13)** in the AM peak hour.

Mitigation Measure 2-27: This interchange is programmed to be reconstructed to improve access and is currently scheduled for completion by 2020.[25,26] The improvement may alleviate the substandard conditions of this ramp. However, any potential effects are not included in this analysis because details of the project are not known at this time.

Impact 2-28: The addition of traffic generated by full development of Alternative 2 would contribute to substandard conditions on **SR 4 eastbound off-ramp onto San Marco Boulevard (#14)** in the PM peak hour. The heavy ramp volume may be attributed to motorists intending to use parallel routes to avoid congestion on SR 4 to the east and are leaving the freeway mainline at this point.

Mitigation Measure 2-28: No improvement has been planned or programmed to address this regional corridor issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities.

Impact 2-29: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **SR 4 westbound on-ramp from southbound San Marco Boulevard (#15)** in the AM peak hour. The heavy ramp volume may be attributed to some motorists using parallel routes to avoid congestion on SR 4 to the east and are entering the freeway at this point.

Mitigation Measure 2-29: No improvement has been planned or programmed to address this regional corridor issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements and TDM programs that would alleviate congestion on regional facilities.

Impact 2-30: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **SR 4 westbound on-ramp from northbound San Marco Boulevard (#16)** in the AM peak hour. The heavy ramp volume on this single-lane on-ramp may be attributed to motorists using parallel routes to avoid congestion on SR 4 to the east and are entering the freeway at this point.

[25] Metropolitan Transportation Commission, Final Transportation 2035 Plan, April 22, 2009.
[26] Contra Costa Transportation Authority, Measure J Strategic Plan – July 2011 Project Fact Sheet: Willow Pass Road/SR 4 Ramp Reconstruction.

Mitigation Measure 2-30: No improvement has been planned or programmed to address this regional corridor issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 2-31: The addition of traffic generated by full development of Alternative 2 would cause **SR 4 eastbound on-ramp from northbound San Marco Boulevard (#17)** to degrade to LOS F in the PM peak hour. The heavy ramp volume on this single-lane on-ramp may be attributed to motorists using parallel routes to avoid congestion on SR 4 to the west and are entering the freeway at this point.

Mitigation Measure 2-31: No improvement has been planned or programmed to address this regional corridor issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 2-32: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **SR 4 westbound off-ramp onto San Marco Boulevard (#18)** in the AM peak hour. The heavy ramp volume may be attributed to motorists intending to use parallel routes to avoid congestion on SR 4 to the west and are leaving the freeway mainline at this point.

Mitigation Measure 2-32: No improvement has been planned or programmed to address this regional corridor issue. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 2-33: The addition of traffic generated by full development of Alternative 2 would cause **SR 4 eastbound off-ramp to southbound Bailey Road (#19)** to degrade to LOS F in the PM peak hour. The increased volume on the ramp due to Alternative 2 results in a v/c of 1.09 and density of 37.46 passenger car per mile per lane (pc/mi/ln), which exceeds the LOS D threshold of 35 pc/mi/ln.

Mitigation Measure 2-33: No improvement has been planned or programmed for this location. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 2-34: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **SR 4 westbound on-ramp from Bailey Road (#20)** in the AM peak hour. The ramp condition may be attributed to high volumes on both the ramp merge area and the mainline onto where traffic is merging.

Mitigation Measure 2-34: No improvement has been planned or programmed for this location. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

Impact 2-35: The addition of traffic generated by full development of Alternative 2 would contribute to future substandard conditions on **SR 4 westbound on-ramp from Railroad Avenue (#21)** in the AM peak hour. The ramp condition may be attributed to high volumes on both the ramp merge area and the mainline onto where traffic is merging.

> **Mitigation Measure 2-35:** No improvement has been planned or programmed for this location. Future developers of the NWS site would contribute to TRANSPAC's STMF program towards transportation improvements that would alleviate congestion on regional facilities.

4.4.3.5 MTSO Segment Delay Index

The delay index along the Central County and East County corridors of Interstate 680, SR 4 and SR 242 would be within MTSO standards with the implementation of Alternative 2. The HOV lane utilization on SR 4 in East County would also meet the MTSO standard.

5 REFERENCES

1. California Department of Transportation, *Guide for the Preparation of Traffic Impact Studies*, December 2002.

2. California Department of Transportation, Traffic Operations Division, Traffic and Vehicle Data Systems Unit, 2011 All Traffic Volumes on CSHS. [http://traffic-counts.dot.ca.gov/2011all/index.html]

3. California Department of Transportation, Traffic Operations Division, Traffic and Vehicle Data Systems Unit, 2012 All Traffic Volumes on CSHS. [http://traffic-counts.dot.ca.gov/2012all/]

4. California Department of Transportation, Performance Monitoring System (PeMS). http://pems.dot.ca.gov/

5. City of Concord, *Concord 2030 General Plan.*

6. City of Concord, Concord Reuse Project Area Plan EIR Addendum, 2012.

7. City of Concord, Concord Community Reuse Project Final EIR, January 15, 2010.

8. City of Concord, Concord Community Reuse Plan Draft EIR, 2008.

9. Contra Costa Transportation Authority, *Measure J Strategic Plan – July 2011 Project Fact Sheet: Willow Pass Road/State Route 4 Ramp Reconstruction*.

10. Contra Costa Transportation Authority, *Technical Procedures Update*, July 19, 2006.

11. Florida Department of Transportation, *2013 Quality/Level of Service Handbook*.

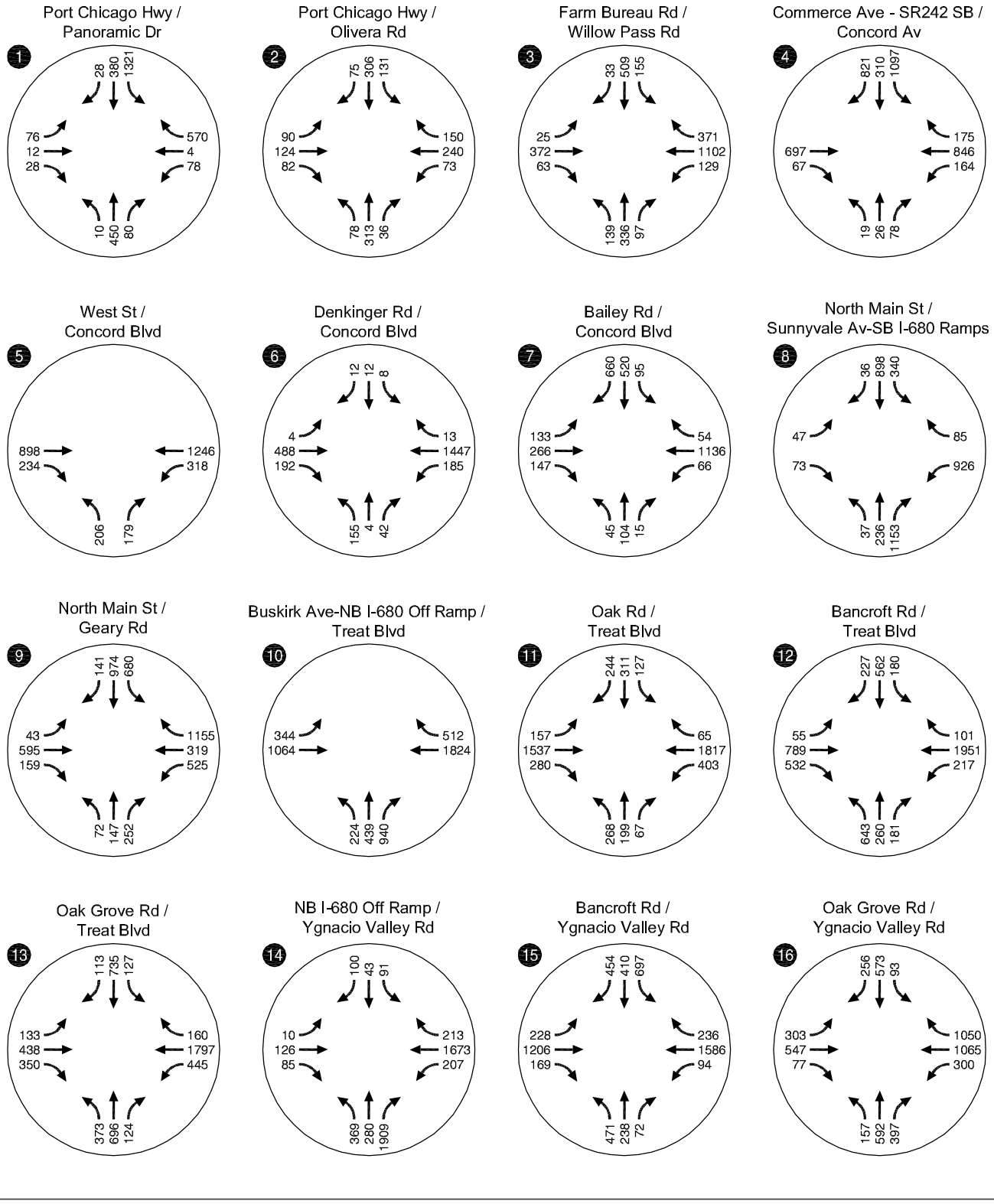
12. Kittelson & Associates, Inc. *State Route 4/242 Ramp Metering Study*, 2013.

13. Metropolitan Transportation Commission, *Final Transportation 2035 Plan*, April 22, 2009.

14. Transportation Research Board, *Highway Capacity Manual,* 2000.

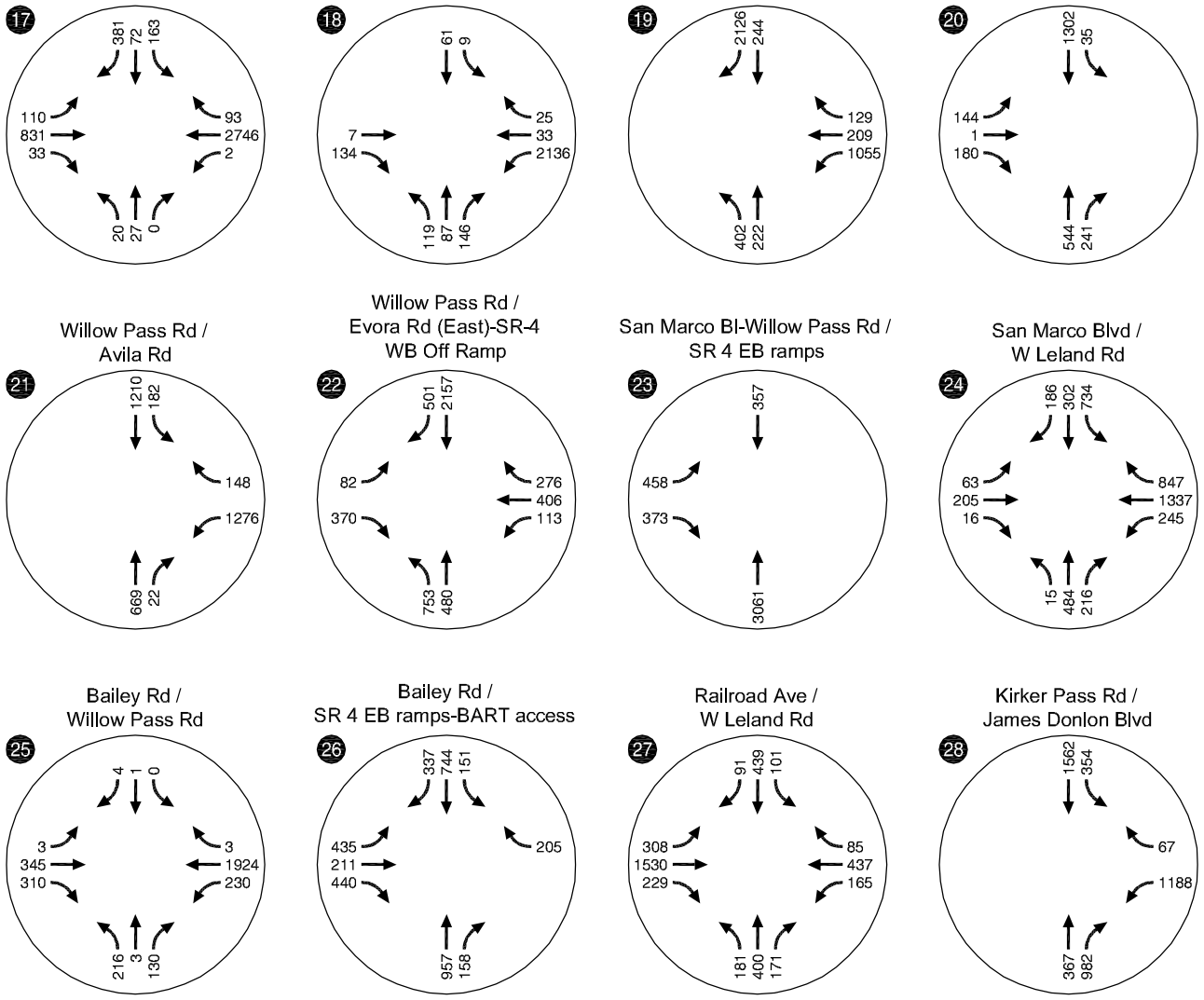
15. Transportation Research Board, *Highway Capacity Manual,* 2010.

Appendix 1
Intersection Lane Configurations and Turning Movement Volumes



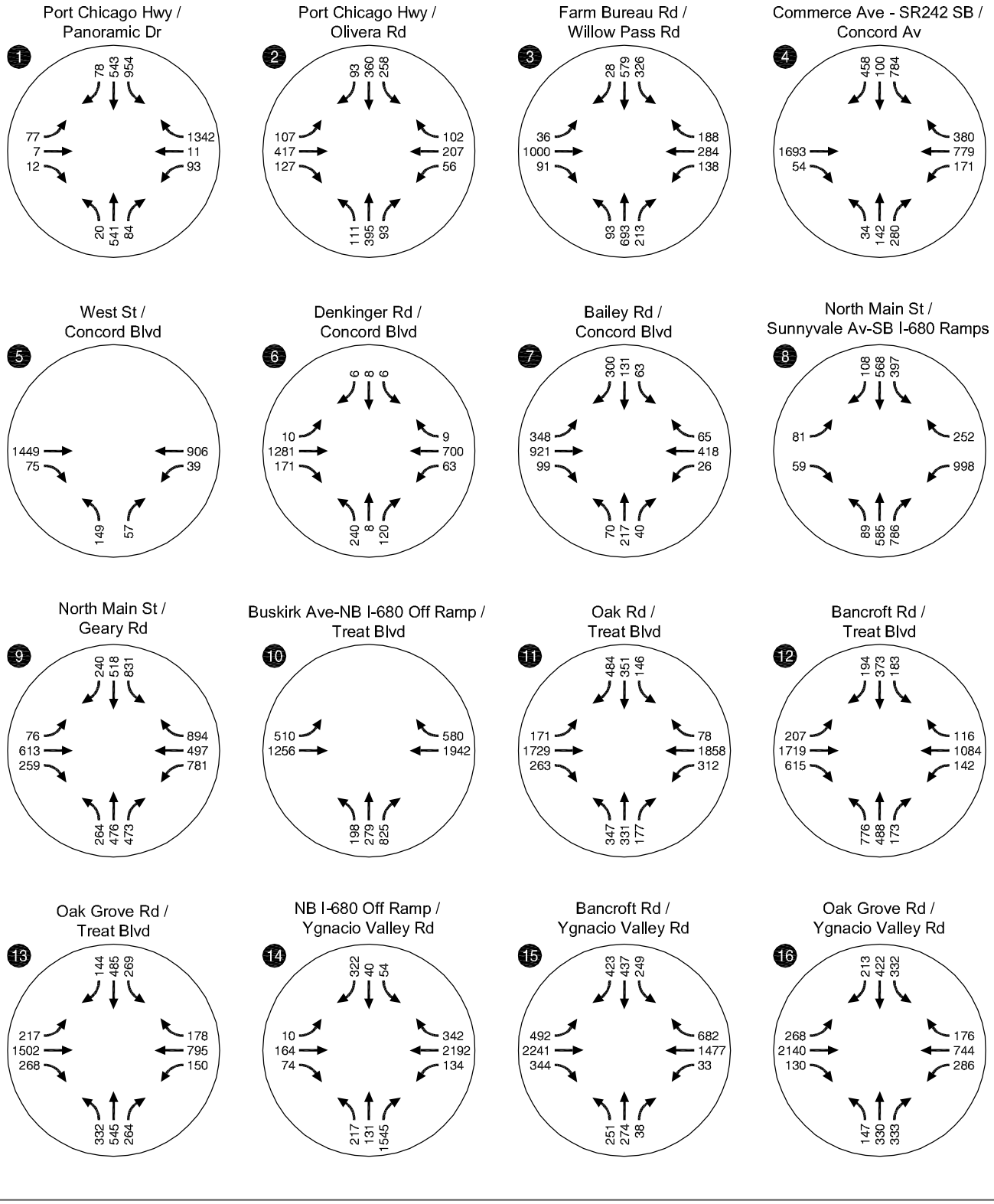
Cumulative No Action
AM Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:23pm - bcullimore Layout Tab: 4A



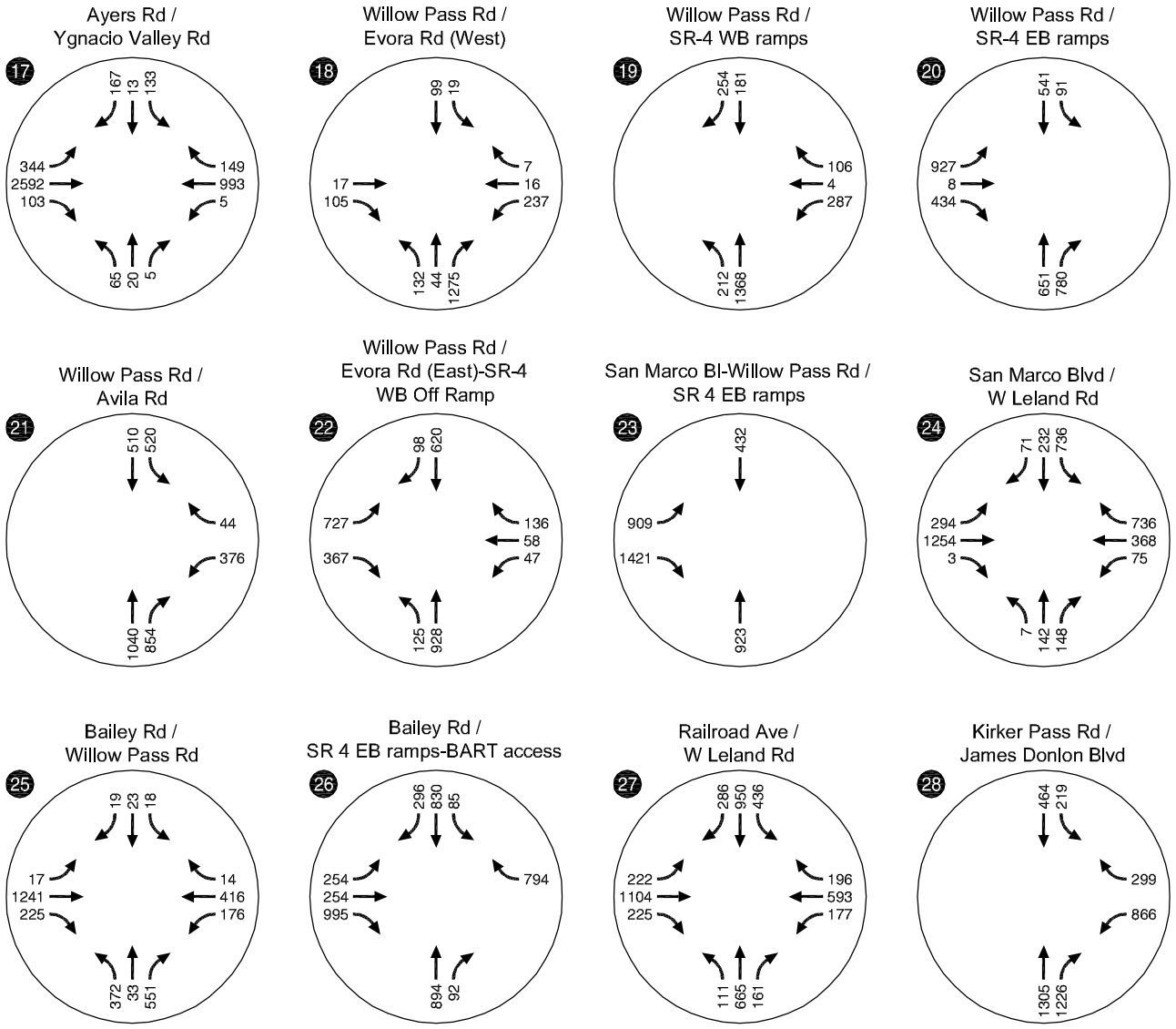
Cumulative No Action
AM Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:23pm - bcullimore Layout Tab: 4B



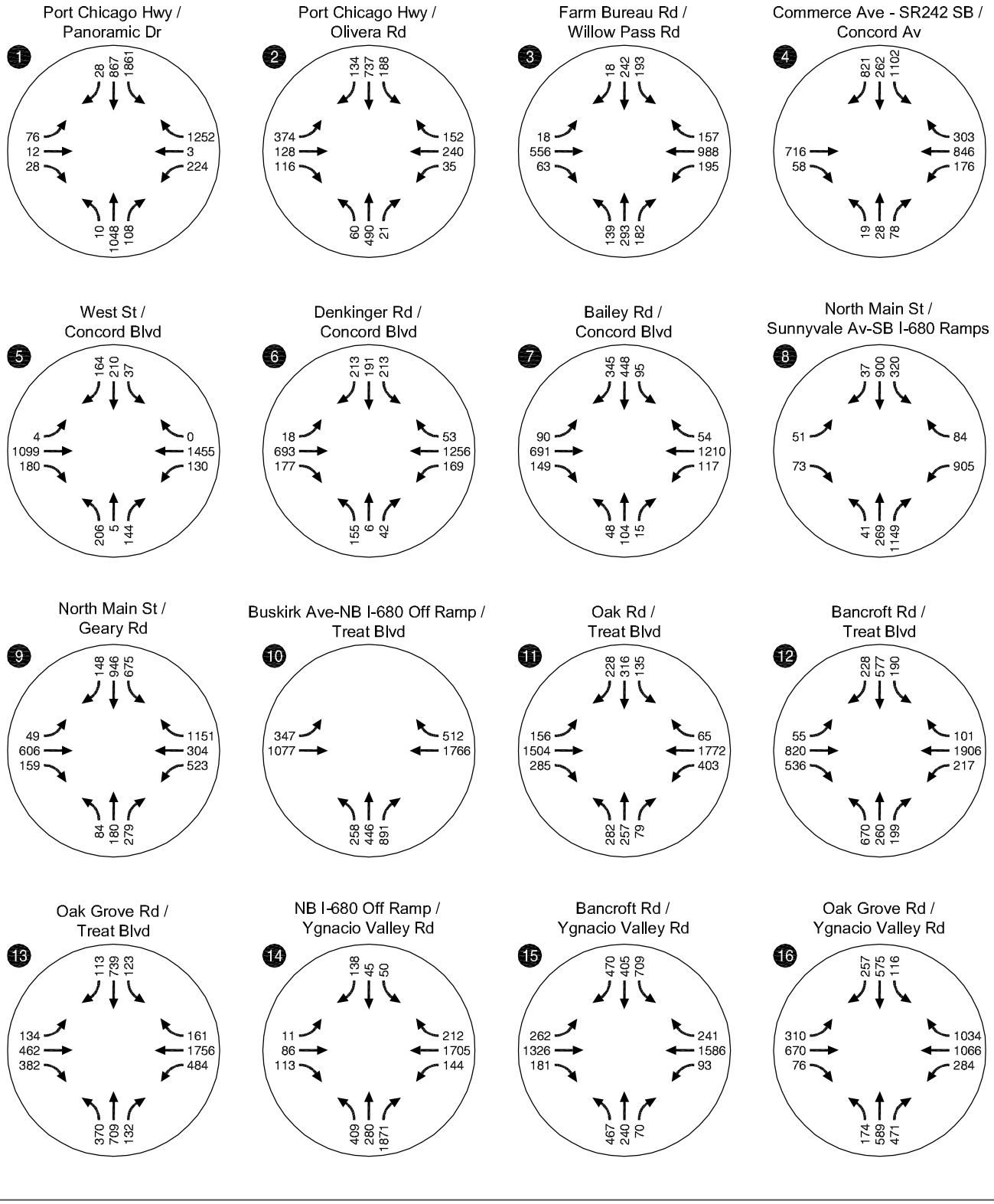
Cumulative No Action
PM Peak Hour Traffic Conditions

H:\proj\le\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:23pm - bcullimore Layout Tab: 5A



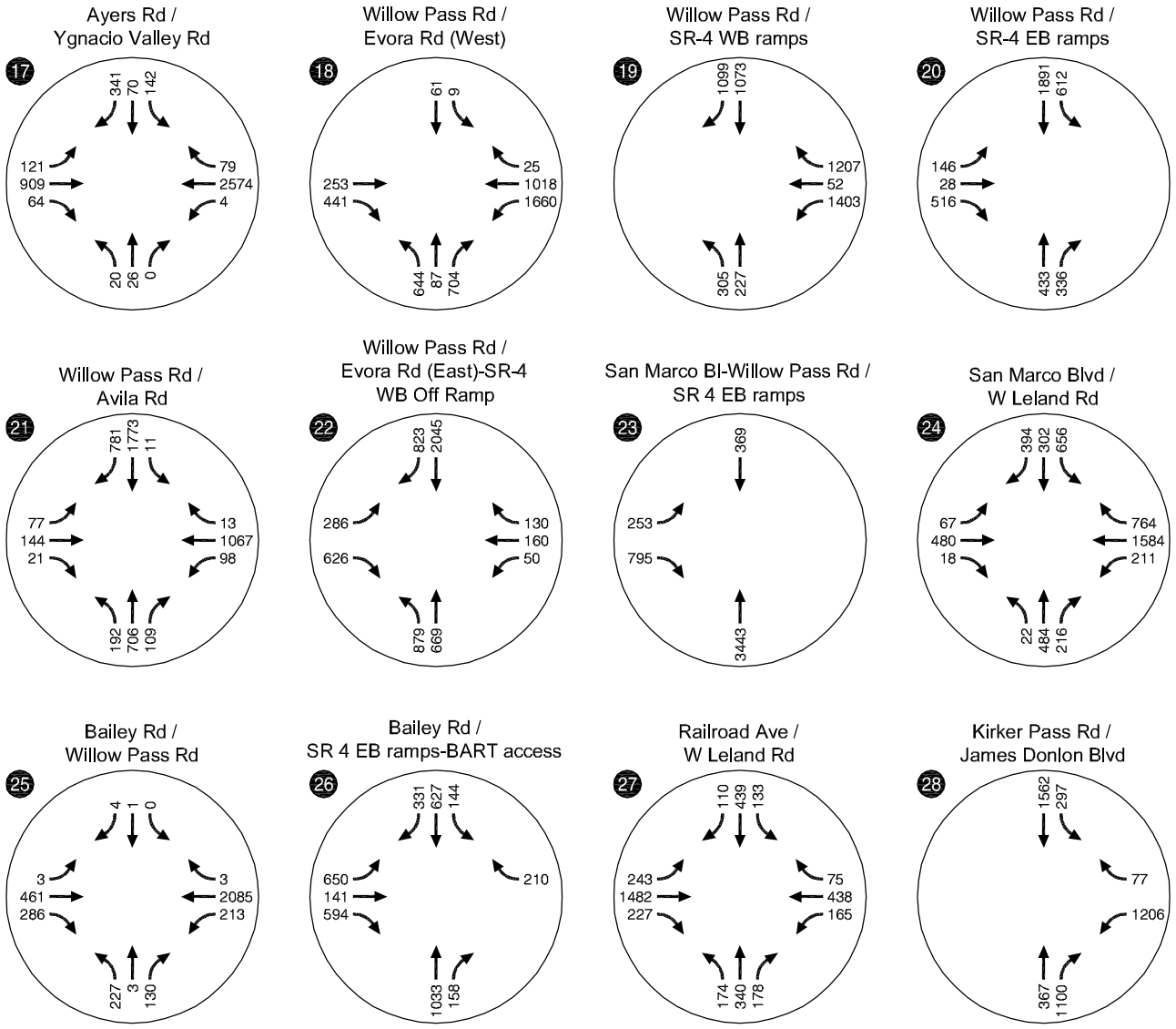
Cumulative No Action
PM Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:24pm - bcullimore Layout Tab: 5B



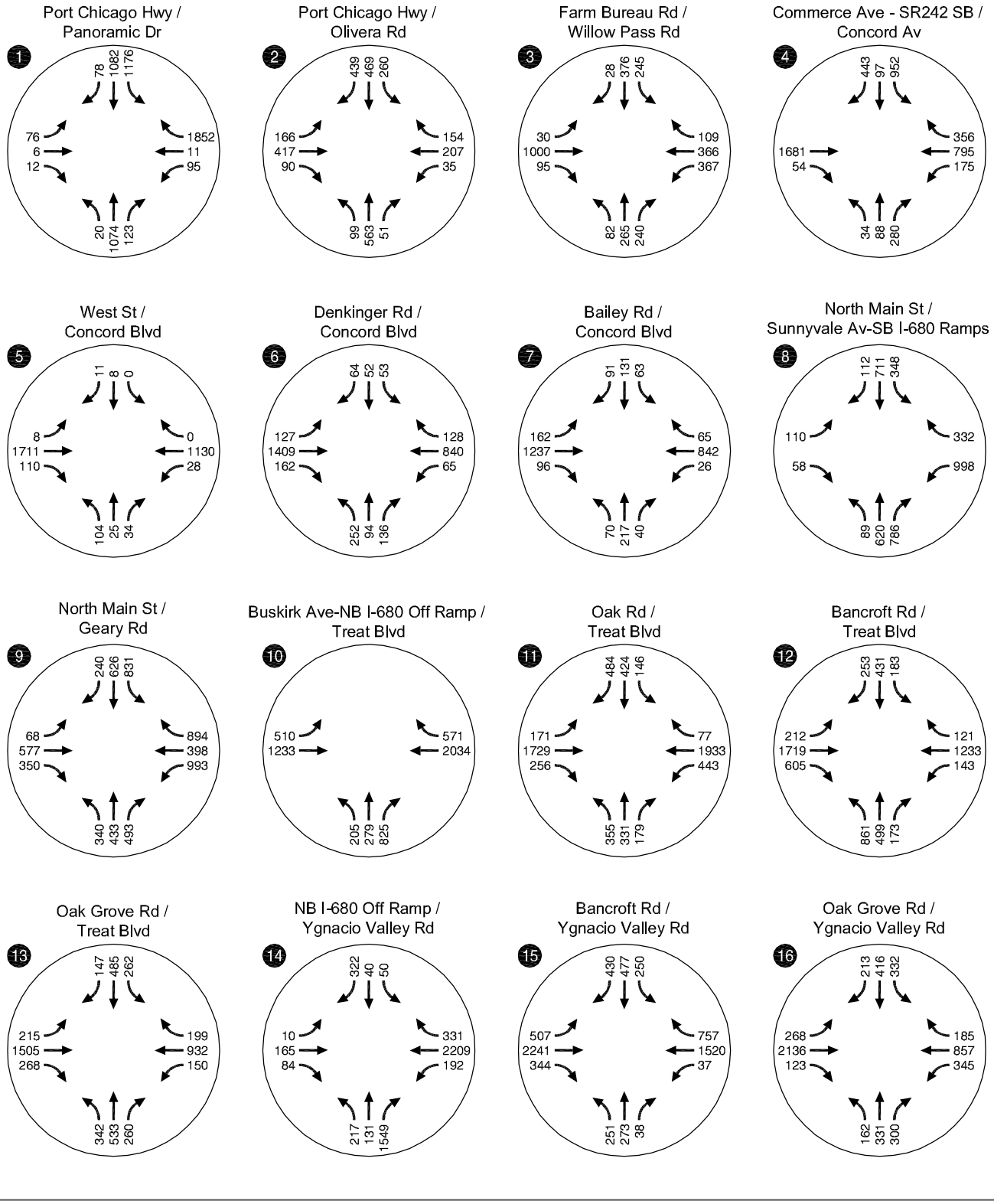
Cumulative Plus Alternative 1: Area Plan
AM Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:24pm - bcullimore Layout Tab: 6A



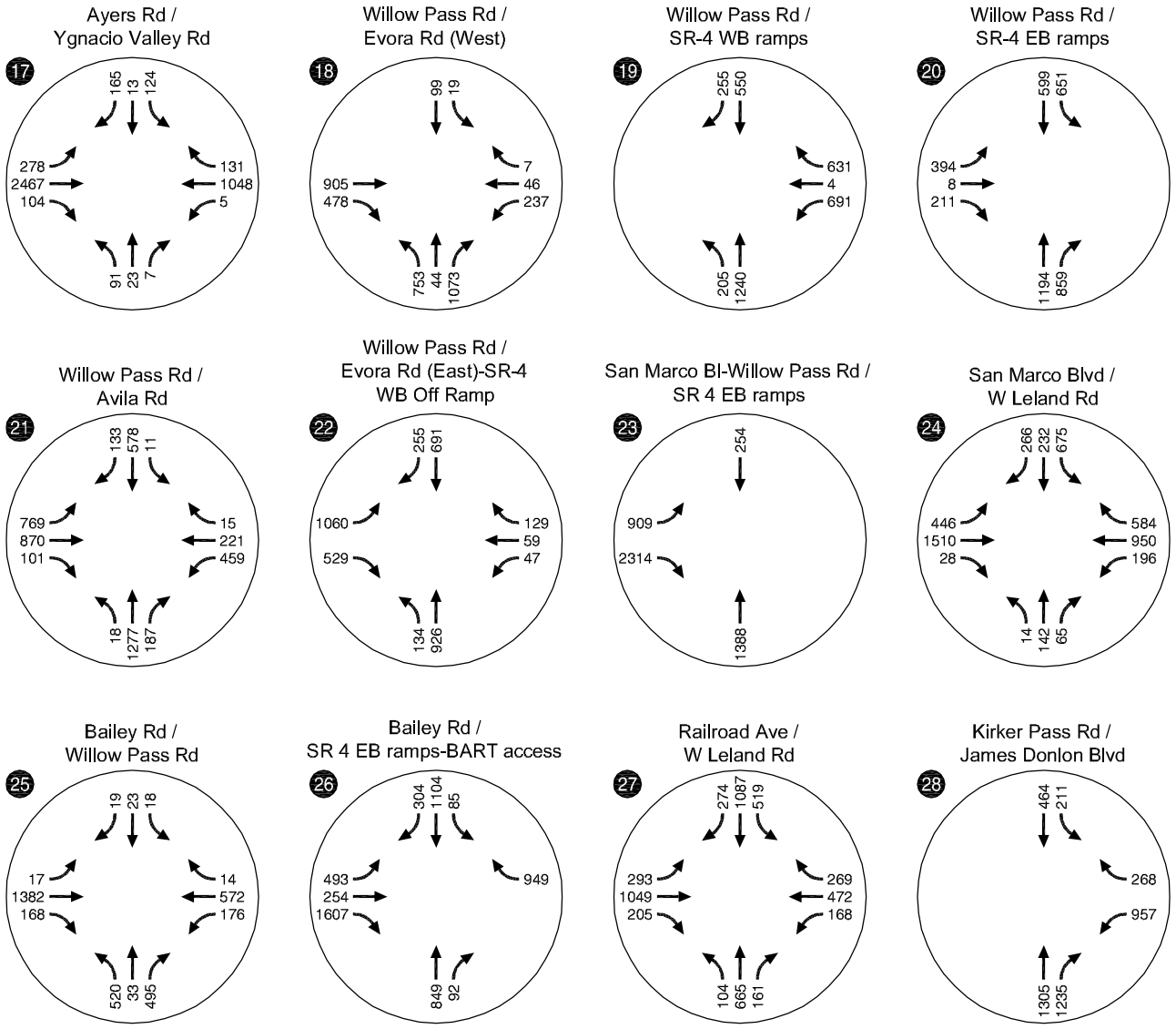
Cumulative Plus Alternative 1: Area Plan
AM Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:24pm - bcullimore Layout Tab: 6B



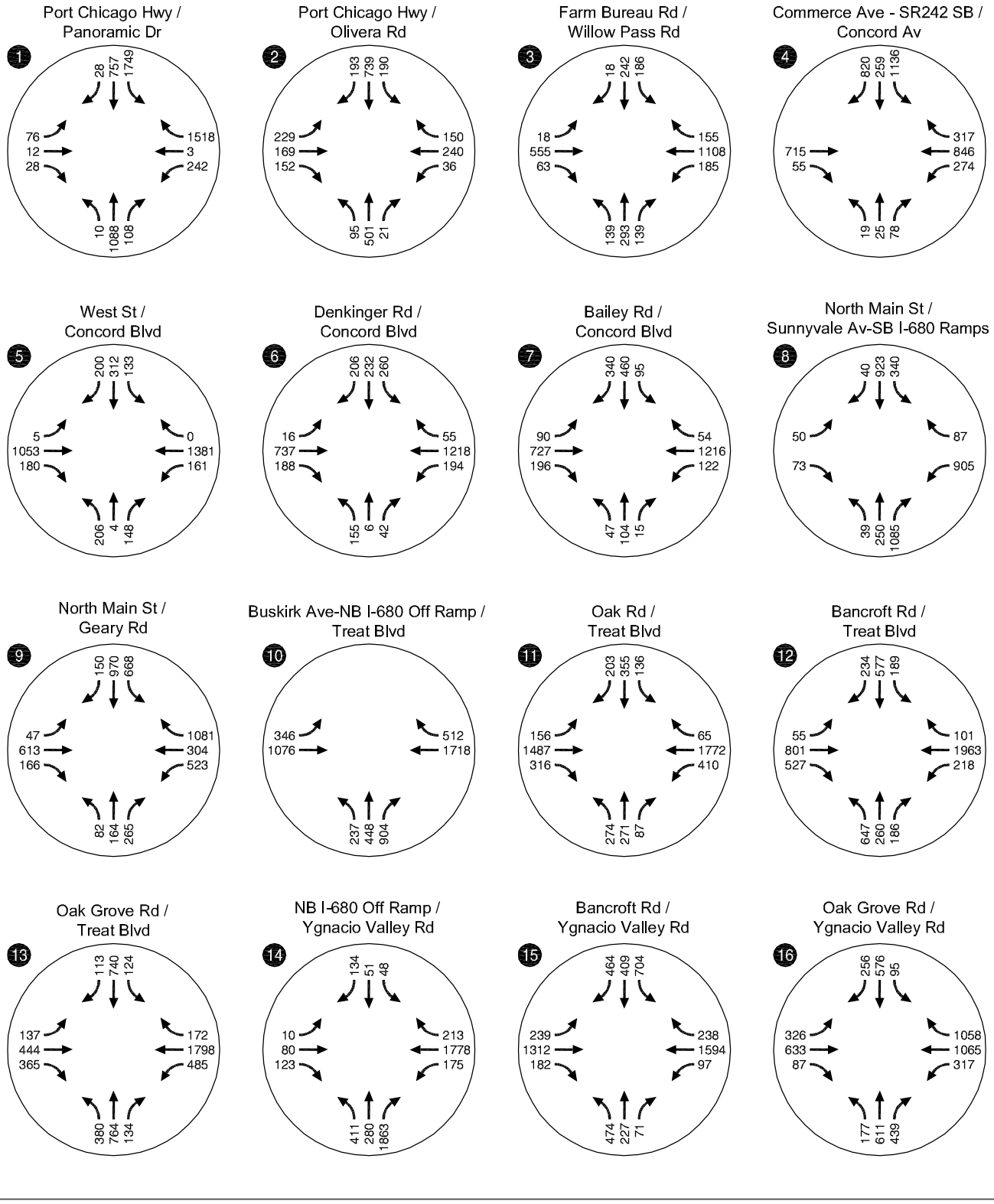
Cumulative Plus Alternative 1: Area Plan
PM Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:24pm - bcullimore Layout Tab: 7A



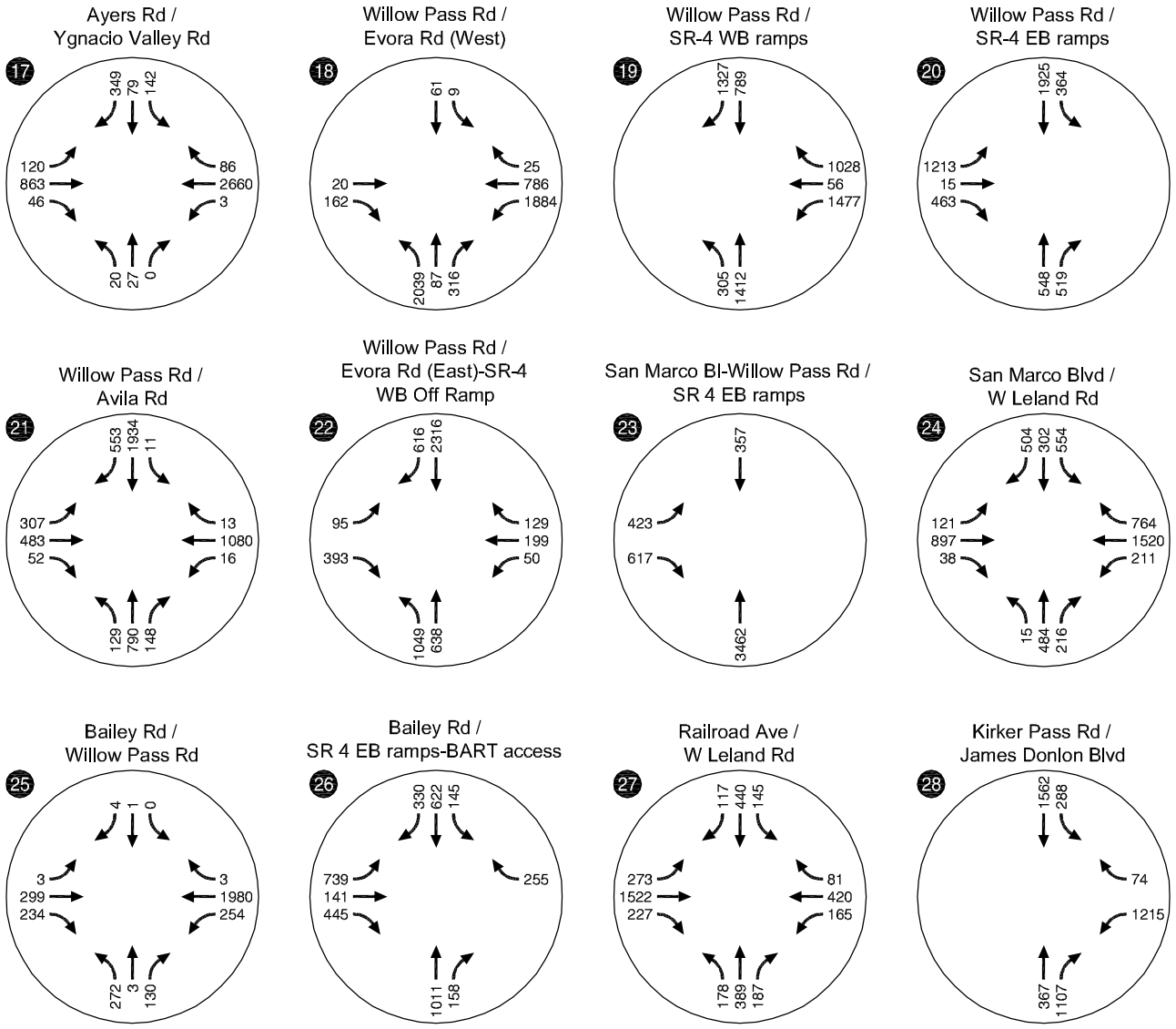
Cumulative Plus Alternative 1: Area Plan
PM Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:24pm - bcullimore Layout Tab: TB



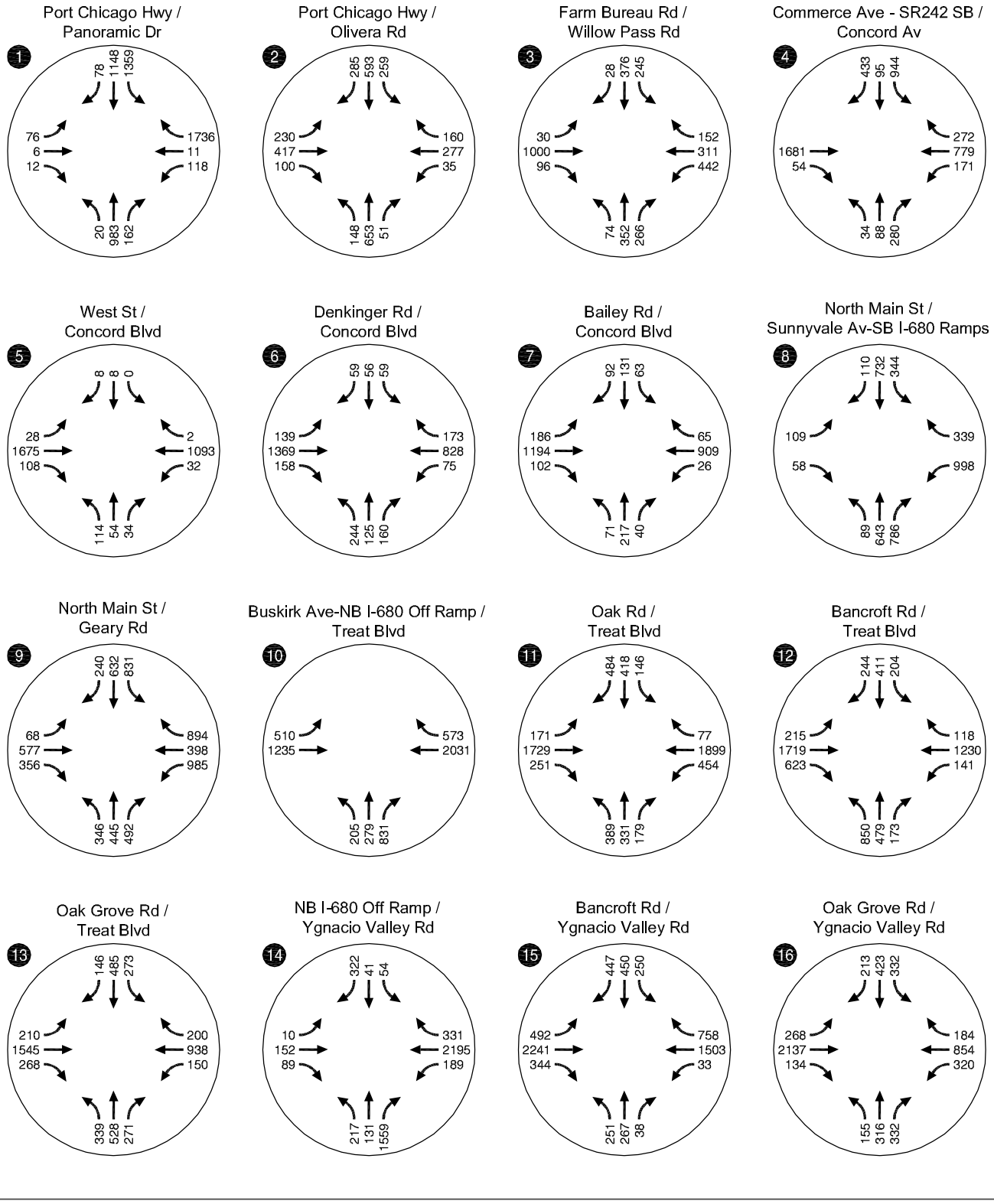
Cumulative Plus Alternative 2: Intensified Reuse
AM Peak Hour Traffic Conditions

H:\proj\le\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:24pm - bcullimore Layout Tab: 8A



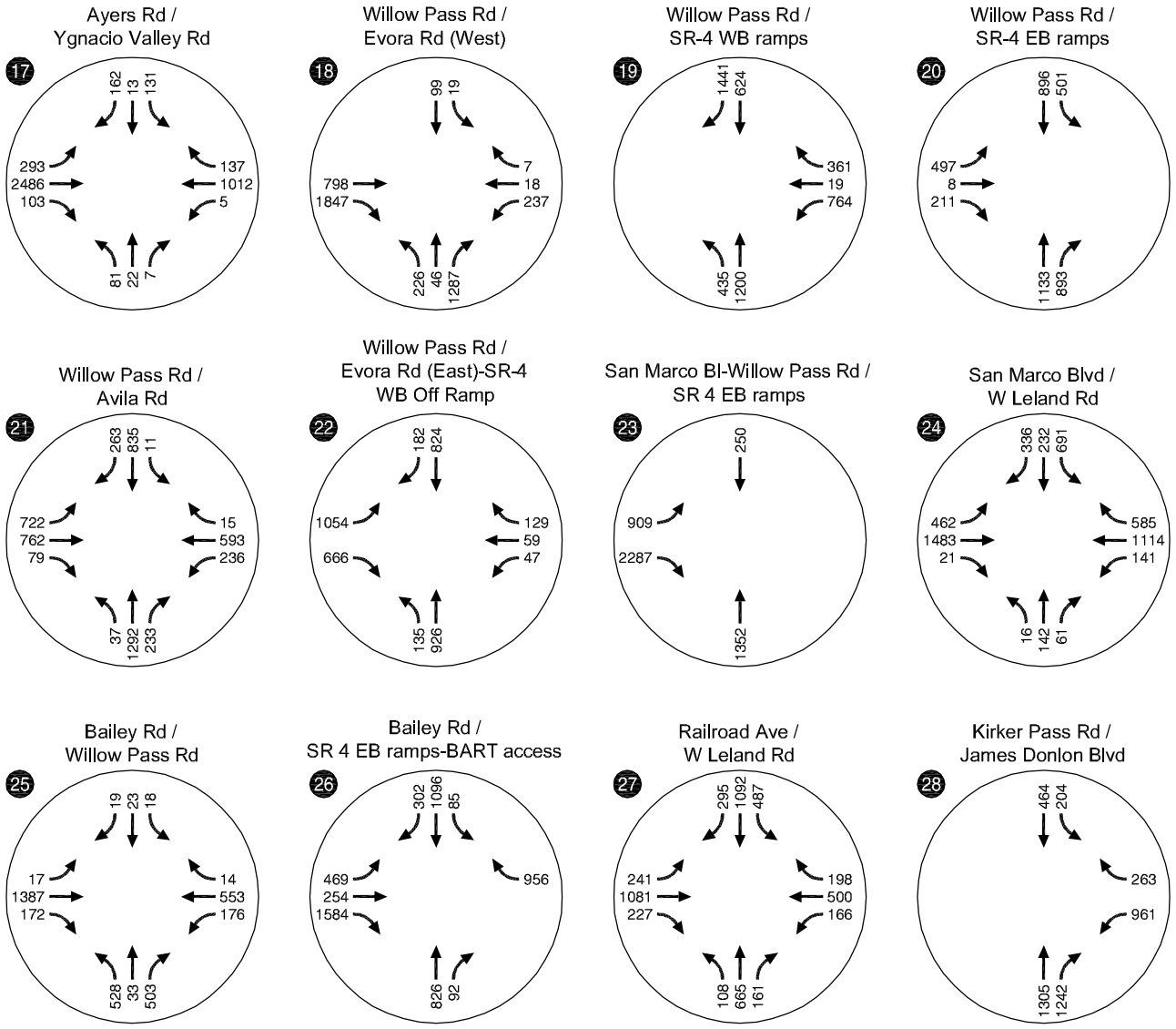
Cumulative Plus Alternative 2: Intensified Reuse
AM Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:24pm - bcullimore Layout Tab: BB



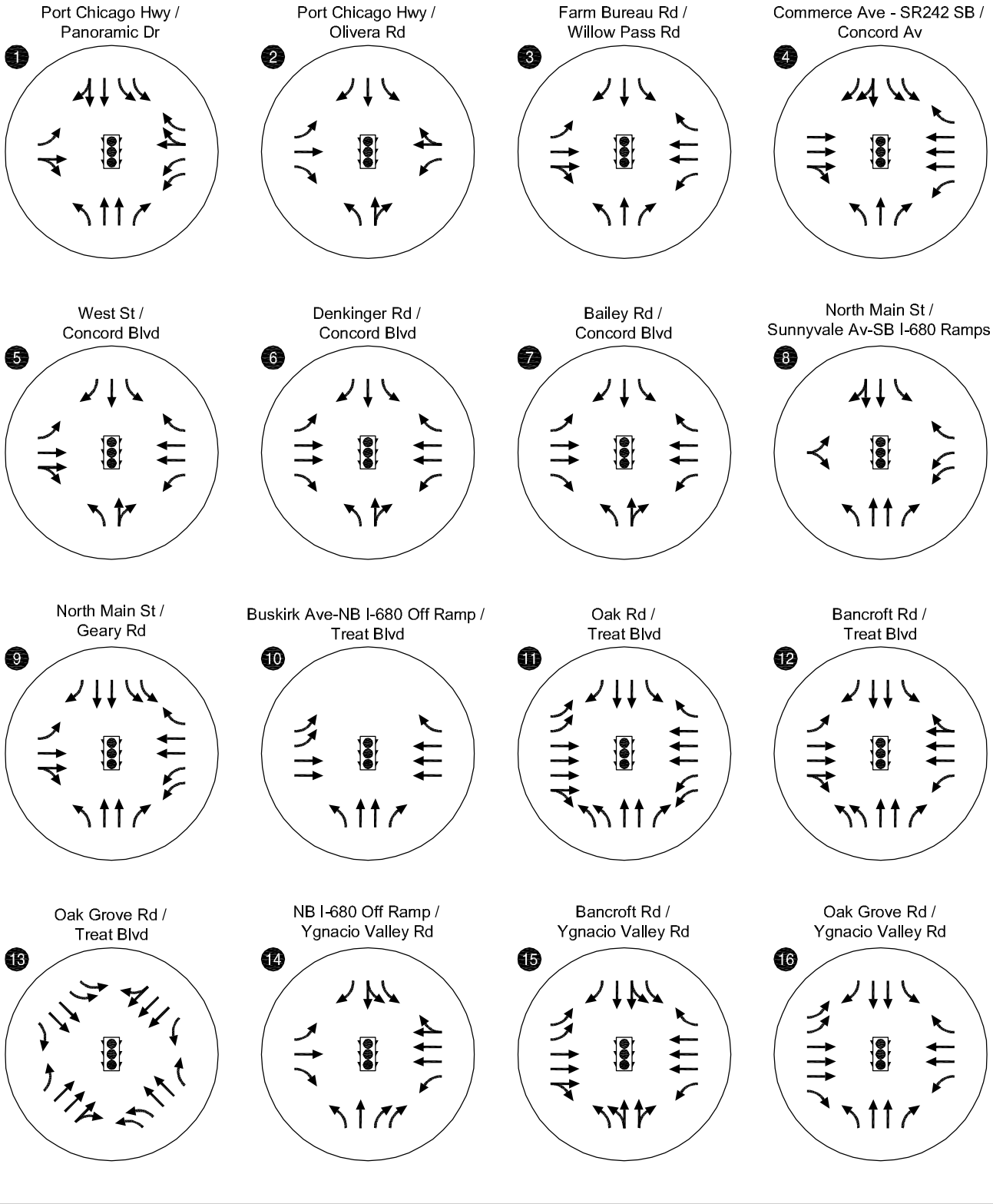
Cumulative Plus Alternative 2: Intensified Reuse
PM Peak Hour Traffic Conditions

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:24pm - bcullimore Layout Tab: 9A



Cumulative Plus Alternative 2: Intensified Reuse
PM Peak Hour Traffic Conditions

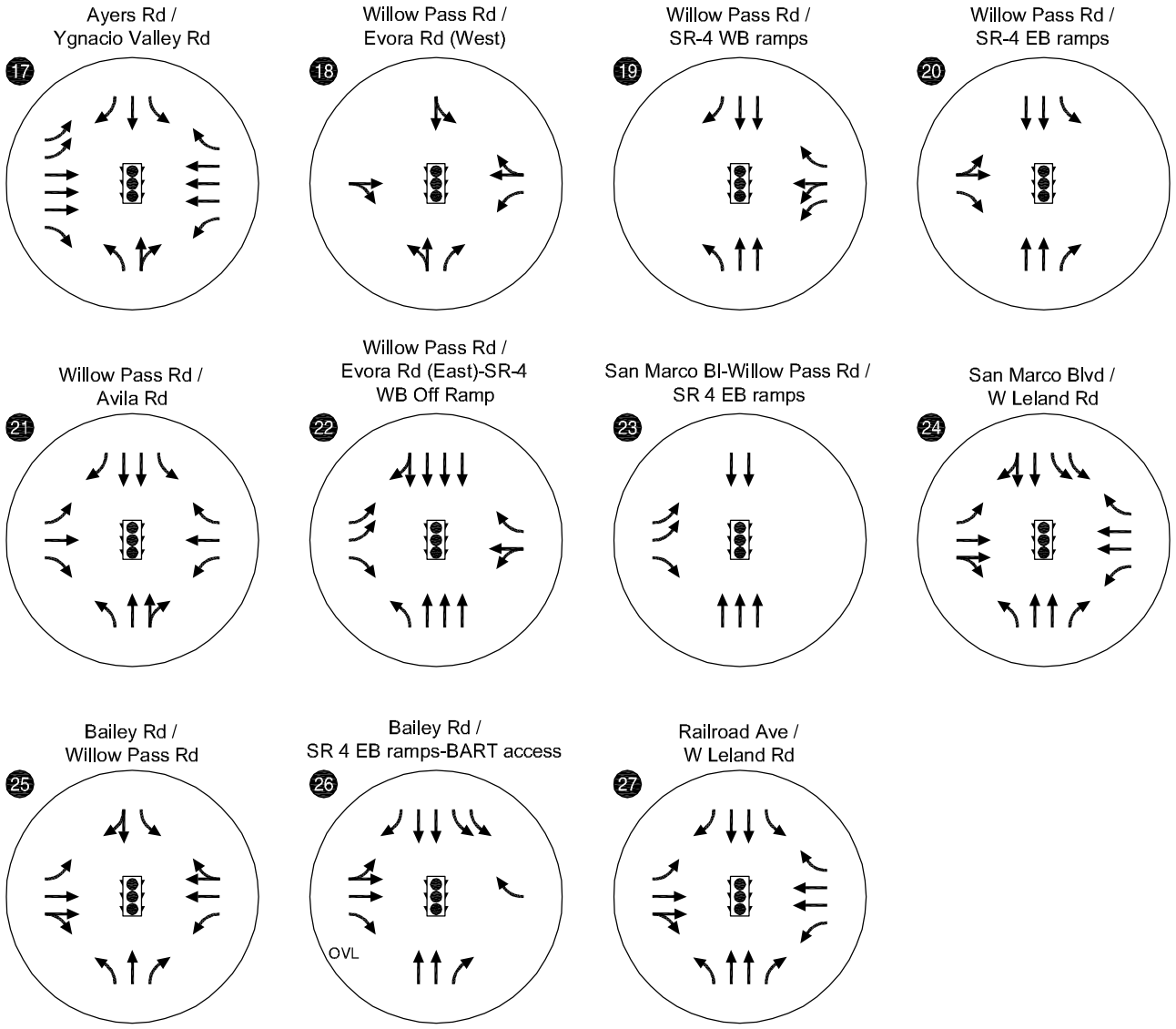
H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:25pm - bcullimore Layout Tab: 9B



- STOP SIGN
- TRAFFIC SIGNAL

Cumulative Plus Alternative 1/ Alternative 2 Lane Configurations and Traffic Control Devices

H:\proj\le\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:24pm - bcullimore Layout Tab: 1A (2)



OVL - OVERLAP

- STOP SIGN

- TRAFFIC SIGNAL

Cumulative Plus Alternative 1/ Alternative 2 Lane Configurations and Traffic Control Devices

H:\projfile\12820 - Concord NWS EIS\dwgs\figs\12820_Fig01(copy).dwg Apr 22, 2014 - 3:24pm - bcullimore Layout Tab: 1B (2)

Appendix 2 Intersection Level-of-Service Worksheets

Former NWS Concord TIA
Existing Conditions - AM peak hour

Scenario Report

Scenario:	ExAM
Command:	ExAM
Volume:	AM
Geometry:	Ex
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.384
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	2 0	1 1	0	1 0	0 1	0	1 0	0 1	1
Volume Module: >> Count Date: 12 Jun 2013 << 0700												
Base Vol:	10	450	80	594	379	28	76	12	28	43	3	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	450	80	594	379	28	76	12	28	43	3	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	10	469	83	619	395	29	79	13	29	45	3	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	469	83	619	395	29	79	13	29	45	3	106
RTOR Reduct:	0	0	45	0	0	0	0	0	0	0	0	106
RTOR Vol:	10	469	39	619	395	29	79	13	29	45	3	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	469	39	619	395	29	79	13	29	45	3	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91
Lanes:	1.00	2.00	1.00	2.00	1.86	0.14	1.00	0.30	0.70	1.00	1.00	1.00
Final Sat.:	1720	3440	1720	3127	3203	237	1720	516	1204	1720	1720	1563
Capacity Analysis Module:												
Vol/Sat:	0.01	0.14	0.02	0.20	0.12	0.12	0.05	0.02	0.02	0.03	0.00	0.00
Crit Volume:		234		309					42	45		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1020 Port Chicago Hwy & Olivera Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.649
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	65	Level Of Service:	B

Street Name:	Port Chicago Hwy						Olivera Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 1	1	0	1 0 1	1	0	0 1 0
Volume Module:0745												
Base Vol:	60	299	21	131	264	75	90	124	58	35	240	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	299	21	131	264	75	90	124	58	35	240	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	69	344	24	151	303	86	103	143	67	40	276	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	344	24	151	303	86	103	143	67	40	276	172
RTOR Reduct:	0	0	0	0	0	86	0	0	67	0	0	0
RTOR Vol:	69	344	24	151	303	0	103	143	0	40	276	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	344	24	151	303	0	103	143	0	40	276	172
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.93	0.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.38
Final Sat.:	1650	1542	108	1650	1650	1650	1650	1650	1650	1650	1015	635
Capacity Analysis Module:												
Vol/Sat:	0.04	0.22	0.22	0.09	0.18	0.00	0.06	0.09	0.00	0.02	0.27	0.27
Crit Volume:		368			151			103			448	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1030 Farm Bureau Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.656
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	B

Street Name:	Farm Bureau Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0 1	1	0	1 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module: >> Count Date: 12 Jun 2013 << 0730												
Base Vol:	139	293	97	153	242	18	18	372	63	100	956	139
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	139	293	97	153	242	18	18	372	63	100	956	139
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	160	337	111	176	278	21	21	428	72	115	1099	160
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	160	337	111	176	278	21	21	428	72	115	1099	160
RTOR Reduct:	0	0	111	0	0	21	0	0	0	0	0	160
RTOR Vol:	160	337	0	176	278	0	21	428	72	115	1099	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	160	337	0	176	278	0	21	428	72	115	1099	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.71	0.29	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	2822	478	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.10	0.20	0.00	0.11	0.17	0.00	0.01	0.15	0.15	0.07	0.33	0.00
Crit Volume:		337			176			21			549	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1040 SR 242-Commerce Av & Concord Av

Cycle (sec): 100 Critical Vol./Cap.(X): 0.586
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 55 Level Of Service: A

Street Name:	SR242 SB-Commerce Av						Concord Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	2	0 0	1 1	0	0 2	1 0	1	0 3	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 0730												
Base Vol:	19	22	78	905	128	820	0	643	31	124	846	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	22	78	905	128	820	0	643	31	124	846	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	21	24	85	984	139	891	0	699	34	135	920	83
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	24	85	984	139	891	0	699	34	135	920	83
RTOR Reduct:	0	0	85	0	0	0	0	0	0	0	0	0
RTOR Vol:	21	24	0	984	139	891	0	699	34	135	920	83
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	24	0	984	139	891	0	699	34	135	920	83
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	2.00	0.27	1.73	0.00	2.86	0.14	1.00	3.00	1.00
Final Sat.:	1650	1650	1650	3000	446	2595	0	4722	228	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.33	0.31	0.34	0.00	0.15	0.15	0.08	0.19	0.05
Crit Volume:	21					515			244	135		
Crit Moves:	****					****			****	****		

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1050 West St & Concord Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.531
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: A

Street Name:	West St						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	0 1	0	0 0	0 0	0	0 1	1 0	1	0 2	0 0
Volume Module: >> Count Date: 12 Jun 2013 << 0730												
Base Vol:	206	0	130	0	0	0	0	758	180	120	1101	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	206	0	130	0	0	0	0	758	180	120	1101	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	237	0	149	0	0	0	0	871	207	138	1266	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	237	0	149	0	0	0	0	871	207	138	1266	0
RTOR Reduct:	0	0	138	0	0	0	0	0	0	0	0	0
RTOR Vol:	237	0	11	0	0	0	0	871	207	138	1266	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	237	0	11	0	0	0	0	871	207	138	1266	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.62	0.38	1.00	2.00	0.00
Final Sat.:	1720	0	1720	0	0	0	0	2780	660	1720	3440	0
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.01	0.00	0.00	0.00	0.00	0.31	0.31	0.08	0.37	0.00
Crit Volume:	237					0			539	138		
Crit Moves:	****								****	****		

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1060 Denkinger Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.451
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	A

Street Name:	Denkinger Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	0	0 1!	0 0	1	0 1	1 0	1	0 2	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 0715												
Base Vol:	155	4	42	8	12	12	4	345	148	153	1075	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	155	4	42	8	12	12	4	345	148	153	1075	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	165	4	45	9	13	13	4	367	157	163	1144	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	165	4	45	9	13	13	4	367	157	163	1144	14
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	9
RTOR Vol:	165	4	45	9	13	13	4	367	157	163	1144	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	165	4	45	9	13	13	4	367	157	163	1144	5
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.09	0.91	0.25	0.37	0.38	1.00	1.40	0.60	1.00	2.00	1.00
Final Sat.:	1720	150	1570	430	645	645	1720	2407	1033	1720	3440	1720
Capacity Analysis Module:												
Vol/Sat:	0.10	0.03	0.03	0.02	0.02	0.02	0.00	0.15	0.15	0.09	0.33	0.00
Crit Volume:	165			34			4			572		
Crit Moves:	****			****			****			****		

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1070 Bailey Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.594
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Bailey Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 1!	0 0	0	1 0	0 1	1	0 1	1 0	1	0 1	1 0
Volume Module: >> Count Date: 12 Jun 2013 << 0715												
Base Vol:	45	104	15	95	272	309	90	254	33	54	823	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	104	15	95	272	309	90	254	33	54	823	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	49	113	16	103	296	336	98	276	36	59	895	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	113	16	103	296	336	98	276	36	59	895	59
RTOR Reduct:	0	0	0	0	0	98	0	0	0	0	0	0
RTOR Vol:	49	113	16	103	296	238	98	276	36	59	895	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	113	16	103	296	238	98	276	36	59	895	59
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.27	0.64	0.09	0.26	0.74	1.00	1.00	1.77	0.23	1.00	1.88	0.12
Final Sat.:	472	1091	157	445	1275	1720	1720	3044	396	1720	3228	212
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.10	0.23	0.23	0.14	0.06	0.09	0.09	0.03	0.28	0.28
Crit Volume:	49			399			98					477
Crit Moves:	****			****			****					****

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1080 N Main St & Sunnyvale Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.805
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	117	Level Of Service:	D

Street Name:	N Main St						Sunnyvale Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	2	0 0	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 0715												
Base Vol:	37	131	893	246	745	33	30	47	73	905	0	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	131	893	246	745	33	30	47	73	905	0	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	38	135	921	254	768	34	31	48	75	933	0	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	135	921	254	768	34	31	48	75	933	0	54
RTOR Reduct:	0	0	513	0	0	0	0	0	0	0	0	54
RTOR Vol:	38	135	407	254	768	34	31	48	75	933	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	38	135	407	254	768	34	31	48	75	933	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.92	0.08	0.20	0.31	0.49	2.00	0.00	1.00
Final Sat.:	1650	3300	1650	1650	3160	140	330	517	803	3000	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.02	0.04	0.25	0.15	0.24	0.24	0.09	0.09	0.09	0.31	0.00	0.00
Crit Volume:			407	254					155	466		
Crit Moves:			****	****					****	****		

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1090 N Main St & Geary Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.687
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	73	Level Of Service:	B

Street Name:	N Main St						Geary Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 2	0 1	1	0 1	1 0	2	0 2	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 0730												
Base Vol:	62	102	234	624	895	120	26	477	128	523	294	858
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	62	102	234	624	895	120	26	477	128	523	294	858
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	64	105	241	643	923	124	27	492	132	539	303	885
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	105	241	643	923	124	27	492	132	539	303	885
RTOR Reduct:	0	0	241	0	0	27	0	0	0	0	0	354
RTOR Vol:	64	105	0	643	923	97	27	492	132	539	303	531
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	105	0	643	923	97	27	492	132	539	303	531
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	1.58	0.42	2.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	2602	698	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.03	0.00	0.21	0.28	0.06	0.02	0.19	0.19	0.18	0.09	0.32
Crit Volume:	64				461				312	270		
Crit Moves:	****				****				****	****		

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1100 Buskirk Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.866
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	170	Level Of Service:	D

Street Name:	Buskirk Av						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	AddLane			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	0	0 0	0 0	2	0 2	0 0	0	0 3	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 0730												
Base Vol:	117	438	688	0	0	0	344	880	0	0	1614	512
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	438	688	0	0	0	344	880	0	0	1614	512
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	123	461	724	0	0	0	362	926	0	0	1699	539
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	123	461	724	0	0	0	362	926	0	0	1699	539
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	123	461	724	0	0	0	362	926	0	0	1699	539
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	123	461	724	0	0	0	362	926	0	0	1699	539
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	3.00	1.00
Final Sat.:	1720	3440	1720	0	0	0	3127	3440	0	0	5160	1720
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.42	0.00	0.00	0.00	0.12	0.27	0.00	0.00	0.33	0.31
Crit Volume:			724			0		181			566	
Crit Moves:			****					****			****	

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1110 Oak Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.586
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	A

Street Name:	Oak Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	2	0 3	1 0	2	0 3	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 0730												
Base Vol:	156	179	41	112	311	203	156	1131	256	403	1772	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	156	179	41	112	311	203	156	1131	256	403	1772	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	164	188	43	118	327	214	164	1191	269	424	1865	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	164	188	43	118	327	214	164	1191	269	424	1865	68
RTOR Reduct:	0	0	43	0	0	90	0	0	0	0	0	68
RTOR Vol:	164	188	0	118	327	123	164	1191	269	424	1865	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	164	188	0	118	327	123	164	1191	269	424	1865	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	2.00	3.26	0.74	2.00	3.00	1.00
Final Sat.:	3000	3300	1650	1650	3300	1650	3000	5382	1218	3000	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.06	0.00	0.07	0.10	0.07	0.05	0.22	0.22	0.14	0.38	0.00
Crit Volume:	82				164		82				622	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1120 Bancroft Rd-Walnut Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	151	Level Of Service:	D

Street Name:	Bancroft Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	AddLane			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	1	0 2	1 0	1	0 2	1 0
Volume Module: >> Count Date: 12 Jun 2013 << 0730												
Base Vol:	617	260	142	141	494	218	55	675	511	188	1842	101
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	617	260	142	141	494	218	55	675	511	188	1842	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	671	283	154	153	537	237	60	734	555	204	2002	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	671	283	154	153	537	237	60	734	555	204	2002	110
RTOR Reduct:	0	0	154	0	0	60	0	0	0	0	0	0
RTOR Vol:	671	283	0	153	537	177	60	734	555	204	2002	110
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	671	283	0	153	537	177	60	734	555	204	2002	110
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.84	0.16
Final Sat.:	3000	3300	1650	1650	3300	1650	1650	3300	1650	1650	4693	257
Capacity Analysis Module:												
Vol/Sat:	0.22	0.09	0.00	0.09	0.16	0.11	0.04	0.22	0.34	0.12	0.43	0.43
Crit Volume:	335				268		60				704	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1130 Oak Grove Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.957
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Treat Bl						Oak Grove Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	2	0 2	0 1	2	0 2	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 0715												
Base Vol:	323	546	90	118	699	113	110	334	273	358	1691	137
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	323	546	90	118	699	113	110	334	273	358	1691	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	340	575	95	124	736	119	116	352	287	377	1780	144
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	340	575	95	124	736	119	116	352	287	377	1780	144
RTOR Reduct:	0	0	0	0	0	0	0	0	287	0	0	124
RTOR Vol:	340	575	95	124	736	119	116	352	0	377	1780	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	340	575	95	124	736	119	116	352	0	377	1780	20
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.58	0.42	1.00	2.58	0.42	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1650	4250	700	1650	4261	689	3000	3300	1650	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.21	0.14	0.14	0.08	0.17	0.17	0.04	0.11	0.00	0.13	0.54	0.01
Crit Volume:	340					285	58				890	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1140 I-680 NB Off Ramp & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.933
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	NB I-680 Off Ramp						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			AddLane			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 2	1	1 0	0 1	1	0 1	0 1	1	0 2	1 0
Volume Module: >> Count Date: 12 Jun 2013 << 0715												
Base Vol:	369	280	1583	34	25	100	10	65	68	96	1503	212
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	369	280	1583	34	25	100	10	65	68	96	1503	212
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	397	301	1702	37	27	108	11	70	73	103	1616	228
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	397	301	1702	37	27	108	11	70	73	103	1616	228
RTOR Reduct:	0	0	103	0	0	11	0	0	73	0	0	0
RTOR Vol:	397	301	1599	37	27	97	11	70	0	103	1616	228
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	397	301	1599	37	27	97	11	70	0	103	1616	228
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	2.00	1.15	0.85	1.00	1.00	1.00	1.00	1.00	2.63	0.37
Final Sat.:	1650	1650	3000	1729	1398	1650	1650	1650	1650	1650	4338	612
Capacity Analysis Module:												
Vol/Sat:	0.24	0.18	0.53	0.02	0.02	0.06	0.01	0.04	0.00	0.06	0.37	0.37
Crit Volume:			799	32			11				615	
Crit Moves:			****	****			****				****	

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1150 Bancroft Rd-Walnut Av & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.756
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	93	Level Of Service:	C

Street Name:	Bancroft Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1 0	1 0	1	1 1	0 1	2	0 2	1 0	1	0 3	0 1
Volume Module:0730												
Base Vol:	446	221	61	622	373	454	203	971	139	91	1586	236
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	446	221	61	622	373	454	203	971	139	91	1586	236
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	446	221	61	622	373	454	203	971	139	91	1586	236
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	446	221	61	622	373	454	203	971	139	91	1586	236
RTOR Reduct:	0	0	0	0	0	112	0	0	0	0	0	236
RTOR Vol:	446	221	61	622	373	342	203	971	139	91	1586	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	446	221	61	622	373	342	203	971	139	91	1586	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.84	0.91	0.25	1.88	1.12	1.00	2.00	2.62	0.38	1.00	3.00	1.00
Final Sat.:	2754	1505	416	2813	1856	1650	3000	4330	620	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.16	0.15	0.15	0.22	0.20	0.21	0.07	0.22	0.22	0.06	0.32	0.00
Crit Volume:			242	332			102				529	
Crit Moves:			****	****			****				****	

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1160 Oak Grove Rd & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.913
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Oak Grove Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 3	0 1	1	0 2	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 0730												
Base Vol:	132	401	269	87	483	256	216	391	50	249	1065	965
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	401	269	87	483	256	216	391	50	249	1065	965
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	145	441	296	96	531	281	237	430	55	274	1170	1060
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	145	441	296	96	531	281	237	430	55	274	1170	1060
RTOR Reduct:	0	0	274	0	0	0	0	0	55	0	0	96
RTOR Vol:	145	441	22	96	531	281	237	430	0	274	1170	965
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	145	441	22	96	531	281	237	430	0	274	1170	965
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	3000	4950	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.01	0.06	0.16	0.17	0.08	0.09	0.00	0.17	0.35	0.58
Crit Volume:	145				265		119					965
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1170 Ayers Rd & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.911
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Ayers Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	2	0 2	0 1	1	0 2	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 0700												
Base Vol:	18	22	0	142	30	341	62	517	10	1	2168	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	22	0	142	30	341	62	517	10	1	2168	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	19	23	0	148	31	355	65	539	10	1	2258	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	19	23	0	148	31	355	65	539	10	1	2258	68
RTOR Reduct:	0	0	0	0	0	36	0	0	10	0	0	68
RTOR Vol:	19	23	0	148	31	320	65	539	0	1	2258	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	19	23	0	148	31	320	65	539	0	1	2258	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1650	0	1650	1650	1650	3000	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.09	0.02	0.19	0.02	0.16	0.00	0.00	0.68	0.00
Crit Volume:	19					320	32				1129	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec):	100	Critical Vol./Cap.(X):	0.682
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	B

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	1	0	0	0	1	0
Volume Module: >> Count Date: 12 Jun 2013 << 7:15-8:15 AM												
Base Vol:	119	87	146	9	61	0	0	7	134	664	33	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	119	87	146	9	61	0	0	7	134	664	33	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	124	91	152	9	64	0	0	7	140	692	34	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	91	152	9	64	0	0	7	140	692	34	26
RTOR Reduct:	0	0	152	0	0	0	0	0	0	0	0	0
RTOR Vol:	124	91	0	9	64	0	0	7	140	692	34	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	91	0	9	64	0	0	7	140	692	34	26
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.58	0.42	1.00	0.13	0.87	0.00	0.00	0.05	0.95	1.00	0.57	0.43
Final Sat.:	953	697	1650	212	1438	0	0	82	1568	1650	939	711
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.00	0.04	0.04	0.00	0.00	0.09	0.09	0.42	0.04	0.04
Crit Volume:	215			73			147			692		
Crit Moves:	****			****			****			****		

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1191 Willow Pass Rd & SR-4 WB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.981
Loss Time (sec):	0	Average Delay (sec/veh):	41.8
Optimal Cycle:	0	Level Of Service:	E

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1	1	0	0	0	0	2	0	1	0	0	0	0	0	1	1	0	0	1
Volume Module: >> Count Date: 12 Jun 2013 << 7:15-8:15 AM												
Base Vol:	305	222	0	0	236	638	0	0	0	840	52	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	305	222	0	0	236	638	0	0	0	840	52	128
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.00	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	328	239	0	0	254	0	0	0	0	903	56	138
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	328	239	0	0	254	0	0	0	0	903	56	138
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	328	239	0	0	254	0	0	0	0	903	56	138
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.88	0.12	1.00
Final Sat.:	441	468	0	0	783	421	0	0	0	920	57	566
Capacity Analysis Module:												
Vol/Sat:	0.74	0.51	xxxx	xxxx	0.32	0.00	xxxx	xxxx	xxxx	0.98	0.98	0.24
Crit Moves:	****				****						****	
Delay/Veh:	30.5	17.8	0.0	0.0	15.8	0.0	0.0	0.0	0.0	63.1	62.0	10.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	17.8	0.0	0.0	15.8	0.0	0.0	0.0	0.0	63.1	62.0	10.8
LOS by Move:	D	C	*	*	C	*	*	*	*	F	F	B
ApproachDel:	25.2			15.8			xxxxxx			56.5		
Delay Adj:	1.00			1.00			xxxxx			1.00		
ApprAdjDel:	25.2			15.8			xxxxxx			56.5		
LOS by Appr:	D			C			*			F		
AllWayAvgQ:	2.4	1.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	7.1	7.1	0.3

Note: Queue reported is the number of cars per lane.

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1201 Willow Pass Rd & SR-4 EB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	1.140
Loss Time (sec):	0	Average Delay (sec/veh):	70.2
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	2	0 1	0	1 1	0 0	0	1	0 0 1	0	0 0	0 0 0
Volume Module:	0730											
Base Vol:	0	433	229	35	1070	0	144	1	178	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	433	229	35	1070	0	144	1	178	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.00	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	0	487	0	39	1202	0	162	1	200	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	487	0	39	1202	0	162	1	200	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	487	0	39	1202	0	162	1	200	0	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.06	1.94	0.00	0.99	0.01	1.00	0.00	0.00	0.00
Final Sat.:	0	895	487	34	1056	0	427	3	501	0	0	0
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.54	0.00	1.14	1.14	xxxx	0.38	0.38	0.40	xxxx	xxxx	xxxx
Crit Moves:		****			****				****			
Delay/Veh:	0.0	19.7	0.0	107.1	106	0.0	15.8	15.8	14.3	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	19.7	0.0	107.1	106	0.0	15.8	15.8	14.3	0.0	0.0	0.0
LOS by Move:	*	C	*	F	F	*	C	C	B	*	*	*
ApproachDel:		19.7			106.1			15.0			xxxxxx	
Delay Adj:		1.00			1.00			1.00			xxxxx	
ApprAdjDel:		19.7			106.1			15.0			xxxxxx	
LOS by Appr:		C			F			B			*	
AllWayAvgQ:	0.0	1.1	0.0	14.8	14.5	0.0	0.6	0.6	0.6	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1211 Willow Pass Rd & Avila Rd

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[13.9]

Street Name:	Willow Pass Rd									Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	T	R	L	T	R	L	T	R	L	T	R			
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign					
Rights:	Include			Include			Include			Include					
Lanes:	0 0	1	1 0	0	1	1 0	0	0	0 0 0	1	0	0 0	1		
Volume Module:	>> Count Date: 12 Jun 2013 << 7:30-8:30 AM														
Base Vol:	0	669	3	11	1191	0	0	0	0	2	0	13			
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Initial Bse:	0	669	3	11	1191	0	0	0	0	2	0	13			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
PHF Volume:	0	743	3	12	1323	0	0	0	0	2	0	14			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
FinalVolume:	0	743	3	12	1323	0	0	0	0	2	0	14			
Critical Gap Module:															
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9			
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3			
Capacity Module:															
Cnflict Vol:	xxxx	xxxx	xxxxx	747	xxxx	xxxxx	xxxx	xxxx	xxxxx	1431	xxxx	373			
Potent Cap.:	xxxx	xxxx	xxxxx	871	xxxx	xxxxx	xxxx	xxxx	xxxxx	128	xxxx	630			
Move Cap.:	xxxx	xxxx	xxxxx	871	xxxx	xxxxx	xxxx	xxxx	xxxxx	126	xxxx	630			
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.02			
Level Of Service Module:															
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	0.1			
Control Del:	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	34.0	xxxx	10.8			
LOS by Move:	*	*	*	A	*	*	*	*	*	D	*	B			
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT					
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*			
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			13.9					
ApproachLOS:	*			*			*			B					

Note: Queue reported is the number of cars per lane.

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	0.464
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	A

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 0	0	0 3	1 0	2	0 0	0 1	0	1 0	0 1
Volume Module: >> Count Date: 13 Jun 2013 << 7:15-8:15 AM												
Base Vol:	201	438	0	0	1575	57	18	0	153	50	28	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	201	438	0	0	1575	57	18	0	153	50	28	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	221	481	0	0	1731	63	20	0	168	55	31	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	481	0	0	1731	63	20	0	168	55	31	71
RTOR Reduct:	0	0	0	0	0	0	0	0	168	0	0	0
RTOR Vol:	221	481	0	0	1731	63	20	0	0	55	31	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	221	481	0	0	1731	63	20	0	0	55	31	71
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.86	0.14	2.00	0.00	1.00	0.64	0.36	1.00
Final Sat.:	1650	4950	0	0	6369	231	3000	0	1650	1058	592	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.10	0.00	0.00	0.27	0.27	0.01	0.00	0.00	0.05	0.05	0.04
Crit Volume:	221				448		10				86	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.386
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 0	0	0 2	0 0	2	0 0	0 1	0	0 0	0 0
Volume Module: >> Count Date: 13 Jun 2013 << 7:15-8:15 AM												
Base Vol:	0	1320	0	0	356	0	253	0	158	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1320	0	0	356	0	253	0	158	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	1467	0	0	396	0	281	0	176	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1467	0	0	396	0	281	0	176	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1467	0	0	396	0	281	0	176	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1467	0	0	396	0	281	0	176	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	3127	0	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.00	0.00	0.11	0.00	0.09	0.00	0.10	0.00	0.00	0.00
Crit Volume:		489			0				176		0	
Crit Moves:		****			****				****			

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	151	Level Of Service:	D

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	2	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module: >> Count Date: 13 Jun 2013 << 7:15-8:15 AM												
Base Vol:	8	484	216	199	302	14	63	15	16	211	12	764
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	484	216	199	302	14	63	15	16	211	12	764
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	10	576	257	237	360	17	75	18	19	251	14	910
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	576	257	237	360	17	75	18	19	251	14	910
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	130
RTOR Vol:	10	576	257	237	360	17	75	18	19	251	14	779
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	576	257	237	360	17	75	18	19	251	14	779
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.38	0.62	2.00	1.91	0.09	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	2282	1018	3000	3154	146	1650	1650	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.25	0.25	0.08	0.11	0.11	0.05	0.01	0.01	0.15	0.00	0.47
Crit Volume:		417		118			75					779
Crit Moves:		****		****			****					****

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1250 Bailey Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.391
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	37	Level Of Service:	A

Street Name:	Bailey Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 0	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module: >> Count Date: 18 Jun 2013 << 0700												
Base Vol:	216	3	130	0	1	4	3	88	79	213	776	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	216	3	130	0	1	4	3	88	79	213	776	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	227	3	137	0	1	4	3	93	83	224	817	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	227	3	137	0	1	4	3	93	83	224	817	3
RTOR Reduct:	0	0	137	0	0	0	0	0	0	0	0	0
RTOR Vol:	227	3	0	0	1	4	3	93	83	224	817	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	227	3	0	0	1	4	3	93	83	224	817	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.20	0.80	1.00	1.05	0.95	1.00	1.99	0.01
Final Sat.:	1650	1650	1650	1650	330	1320	1650	1739	1561	1650	3287	13
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.14	0.25	0.25
Crit Volume:	227				5		3					410
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.413
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: A

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Ovl			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	2	0	2 0 1	0	1	1 0 1	0	0	0 0 1
Volume Module: >> Count Date: 13 Jun 2013 << 7:15-8:15 AM												
Base Vol:	0	574	158	144	535	326	80	141	155	0	0	205
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	574	158	144	535	326	80	141	155	0	0	205
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	604	166	152	563	343	84	148	163	0	0	216
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	604	166	152	563	343	84	148	163	0	0	216
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	83
RTOR Vol:	0	604	166	152	563	343	84	148	163	0	0	132
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	604	166	152	563	343	84	148	163	0	0	132
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	1.00	0.72	1.28	1.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	3000	3300	1650	1195	2105	1650	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.18	0.10	0.05	0.17	0.21	0.07	0.07	0.10	0.00	0.00	0.08
Crit Volume:		302		76					163			132
Crit Moves:		****		****					****			****

Former NWS Concord TIA
Existing Conditions - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.548
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 50 Level Of Service: A

Street Name:	Railroad Ave									W Leland Rd		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 0 1	1	0	2 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module: >> Count Date: 13 Jun 2013 << 0700												
Base Vol:	93	313	98	65	439	52	138	501	227	165	167	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	93	313	98	65	439	52	138	501	227	165	167	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	100	337	105	70	472	56	148	539	244	177	180	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	337	105	70	472	56	148	539	244	177	180	54
RTOR Reduct:	0	0	105	0	0	56	0	0	0	0	0	54
RTOR Vol:	100	337	0	70	472	0	148	539	244	177	180	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	100	337	0	70	472	0	148	539	244	177	180	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.38	0.62	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	2271	1029	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.10	0.00	0.04	0.14	0.00	0.09	0.24	0.24	0.11	0.05	0.00
Crit Volume:	100				236			391		177		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Scenario Report

Scenario:	ExPM
Command:	ExPM
Volume:	PM
Geometry:	Ex
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.403
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	A

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	2 0	1 1	0	1 0	0 1	0	1 0	0 1	1
Volume Module: >> Count Date: 12 Jun 2013 << 0500												
Base Vol:	20	447	39	118	543	78	76	6	12	93	11	474
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	447	39	118	543	78	76	6	12	93	11	474
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	22	486	42	128	590	85	83	7	13	101	12	515
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	486	42	128	590	85	83	7	13	101	12	515
RTOR Reduct:	0	0	42	0	0	0	0	0	0	0	0	71
RTOR Vol:	22	486	0	128	590	85	83	7	13	101	12	445
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	486	0	128	590	85	83	7	13	101	12	445
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91
Lanes:	1.00	2.00	1.00	2.00	1.75	0.25	1.00	0.33	0.67	1.00	0.05	1.95
Final Sat.:	1720	3440	1720	3127	3008	432	1720	573	1147	1720	90	3045
Capacity Analysis Module:												
Vol/Sat:	0.01	0.14	0.00	0.04	0.20	0.20	0.05	0.01	0.01	0.06	0.13	0.15
Crit Volume:	22					338	83					228
Crit Moves:	****					****	****					****

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1020 Port Chicago Hwy & Olivera Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.690
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	74	Level Of Service:	B

Street Name:	Port Chicago Hwy						Olivera Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 1	1	0	1 0 1	1	0	0 1 0
Volume Module:0445												
Base Vol:	92	344	51	258	319	93	107	417	90	35	207	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	92	344	51	258	319	93	107	417	90	35	207	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	95	355	53	266	329	96	110	430	93	36	213	105
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	355	53	266	329	96	110	430	93	36	213	105
RTOR Reduct:	0	0	0	0	0	96	0	0	93	0	0	0
RTOR Vol:	95	355	53	266	329	0	110	430	0	36	213	105
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	355	53	266	329	0	110	430	0	36	213	105
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.33
Final Sat.:	1650	1437	213	1650	1650	1650	1650	1650	1650	1650	1105	545
Capacity Analysis Module:												
Vol/Sat:	0.06	0.25	0.25	0.16	0.20	0.00	0.07	0.26	0.00	0.02	0.19	0.19
Crit Volume:			407	266				430		36		
Crit Moves:			****	****				****		****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1030 Farm Bureau Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.674
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	B

Street Name:	Farm Bureau Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0 1	1	0	1 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module: >> Count Date: 12 Jun 2013 << 1700												
Base Vol:	68	227	96	245	375	28	30	1000	89	74	273	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	227	96	245	375	28	30	1000	89	74	273	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	69	232	98	250	383	29	31	1020	91	76	279	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	232	98	250	383	29	31	1020	91	76	279	87
RTOR Reduct:	0	0	76	0	0	29	0	0	0	0	0	87
RTOR Vol:	69	232	22	250	383	0	31	1020	91	76	279	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	232	22	250	383	0	31	1020	91	76	279	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.84	0.16	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	3030	270	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.14	0.01	0.15	0.23	0.00	0.02	0.34	0.34	0.05	0.08	0.00
Crit Volume:		232		250				556		76		
Crit Moves:		****		****				****		****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1040 SR 242-Commerce Av & Concord Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.745
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	89	Level Of Service:	C

Street Name:	SR242 SB-Commerce Av						Concord Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	2	0 0	1 1	0	0 2	1 0	1	0 3	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 1630												
Base Vol:	34	85	280	608	94	430	0	1681	54	171	779	148
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	85	280	608	94	430	0	1681	54	171	779	148
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	35	88	289	627	97	443	0	1733	56	176	803	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	88	289	627	97	443	0	1733	56	176	803	153
RTOR Reduct:	0	0	176	0	0	0	0	0	0	0	0	0
RTOR Vol:	35	88	112	627	97	443	0	1733	56	176	803	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	88	112	627	97	443	0	1733	56	176	803	153
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	2.00	0.36	1.64	0.00	2.91	0.09	1.00	3.00	1.00
Final Sat.:	1650	1650	1650	3000	592	2462	0	4796	154	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.07	0.21	0.16	0.18	0.00	0.36	0.36	0.11	0.16	0.09
Crit Volume:			112	313					596	176		
Crit Moves:			****	****					****	****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1050 West St & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.488
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	A

Street Name:	West St						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	0 1	0	0 0	0 0	0	0 1	1 0	1	0 2	0 0
Volume Module: >> Count Date: 12 Jun 2013 << 0500												
Base Vol:	85	0	34	0	0	0	0	1270	65	28	628	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	0	34	0	0	0	0	1270	65	28	628	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	91	0	37	0	0	0	0	1366	70	30	675	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	0	37	0	0	0	0	1366	70	30	675	0
RTOR Reduct:	0	0	30	0	0	0	0	0	0	0	0	0
RTOR Vol:	91	0	6	0	0	0	0	1366	70	30	675	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	91	0	6	0	0	0	0	1366	70	30	675	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.90	0.10	1.00	2.00	0.00
Final Sat.:	1720	0	1720	0	0	0	0	3273	167	1720	3440	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.02	0.20	0.00
Crit Volume:	91					0			718	30		
Crit Moves:	****								****	****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1060 Denkinger Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.530
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	Denkinger Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	0	1! 0	0	1	0 1 1	0	1	0 2 0 1
Volume Module: >> Count Date: 12 Jun 2013 << 1700												
Base Vol:	175	8	115	6	8	6	10	1097	158	61	480	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	175	8	115	6	8	6	10	1097	158	61	480	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	180	8	119	6	8	6	10	1131	163	63	495	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	8	119	6	8	6	10	1131	163	63	495	9
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	6
RTOR Vol:	180	8	119	6	8	6	10	1131	163	63	495	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	8	119	6	8	6	10	1131	163	63	495	3
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.07	0.93	0.30	0.40	0.30	1.00	1.75	0.25	1.00	2.00	1.00
Final Sat.:	1720	112	1608	516	688	516	1720	3007	433	1720	3440	1720
Capacity Analysis Module:												
Vol/Sat:	0.10	0.07	0.07	0.01	0.01	0.01	0.01	0.38	0.38	0.04	0.14	0.00
Crit Volume:	180				21			647		63		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1070 Bailey Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.564
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	A

Street Name:	Bailey Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	0 1	1	0	1 1 0	1	0	1 1 0
Volume Module: >> Count Date: 12 Jun 2013 << 1700												
Base Vol:	50	217	40	63	131	74	150	884	90	26	387	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	50	217	40	63	131	74	150	884	90	26	387	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	55	238	44	69	144	81	165	971	99	29	425	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	238	44	69	144	81	165	971	99	29	425	71
RTOR Reduct:	0	0	0	0	0	81	0	0	0	0	0	0
RTOR Vol:	55	238	44	69	144	0	165	971	99	29	425	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	238	44	69	144	0	165	971	99	29	425	71
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.16	0.71	0.13	0.32	0.68	1.00	1.00	1.82	0.18	1.00	1.71	0.29
Final Sat.:	280	1216	224	559	1161	1720	1720	3122	318	1720	2945	495
Capacity Analysis Module:												
Vol/Sat:	0.20	0.20	0.20	0.12	0.12	0.00	0.10	0.31	0.31	0.02	0.14	0.14
Crit Volume:		337			69				535	29		
Crit Moves:		****			****				****	****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1080 N Main St & Sunnyvale Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.710
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	79	Level Of Service:	C

Street Name:	N Main St						Sunnyvale Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	2	0 0	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 1645												
Base Vol:	89	523	786	202	366	67	39	38	58	998	0	246
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	523	786	202	366	67	39	38	58	998	0	246
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	91	534	802	206	373	68	40	39	59	1018	0	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	534	802	206	373	68	40	39	59	1018	0	251
RTOR Reduct:	0	0	560	0	0	0	0	0	0	0	0	206
RTOR Vol:	91	534	242	206	373	68	40	39	59	1018	0	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	91	534	242	206	373	68	40	39	59	1018	0	45
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.69	0.31	0.29	0.28	0.43	2.00	0.00	1.00
Final Sat.:	1650	3300	1650	1650	2789	511	477	464	709	3000	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.16	0.15	0.12	0.13	0.13	0.08	0.08	0.08	0.34	0.00	0.03
Crit Volume:		267			206			138			509	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1090 N Main St & Geary Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.780
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	103	Level Of Service:	C

Street Name:	N Main St						Geary Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 2	0 1	1	0 1	1 0	2	0 2	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 1645												
Base Vol:	178	425	471	831	352	240	68	577	88	338	398	894
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	425	471	831	352	240	68	577	88	338	398	894
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	182	434	481	848	359	245	69	589	90	345	406	912
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	182	434	481	848	359	245	69	589	90	345	406	912
RTOR Reduct:	0	0	190	0	0	69	0	0	0	0	0	466
RTOR Vol:	182	434	291	848	359	176	69	589	90	345	406	446
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	182	434	291	848	359	176	69	589	90	345	406	446
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	1.74	0.26	2.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	2863	437	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.13	0.18	0.28	0.11	0.11	0.04	0.21	0.21	0.11	0.12	0.27
Crit Volume:			291	424				339		172		
Crit Moves:			****	****				****		****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1100 Buskirk Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.977
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Buskirk Av						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	AddLane			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	0	0 0	0 0	2	0 2	0 0	0	0 3	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 1645												
Base Vol:	176	279	819	0	0	0	510	1227	0	0	1427	547
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	176	279	819	0	0	0	510	1227	0	0	1427	547
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	180	285	836	0	0	0	520	1252	0	0	1456	558
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	285	836	0	0	0	520	1252	0	0	1456	558
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	180	285	836	0	0	0	520	1252	0	0	1456	558
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	285	836	0	0	0	520	1252	0	0	1456	558
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	3.00	1.00
Final Sat.:	1720	3440	1720	0	0	0	3127	3440	0	0	5160	1720
Capacity Analysis Module:												
Vol/Sat:	0.10	0.08	0.49	0.00	0.00	0.00	0.17	0.36	0.00	0.00	0.28	0.32
Crit Volume:			836			0	260					558
Crit Moves:			****				****					****

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1110 Oak Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.722
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	82	Level Of Service:	C

Street Name:	Oak Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	2	0 3	1 0	2	0 3	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 1700												
Base Vol:	314	331	170	146	246	484	171	1729	210	152	1346	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	314	331	170	146	246	484	171	1729	210	152	1346	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	331	348	179	154	259	509	180	1820	221	160	1417	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	348	179	154	259	509	180	1820	221	160	1417	81
RTOR Reduct:	0	0	88	0	0	99	0	0	0	0	0	81
RTOR Vol:	331	348	91	154	259	410	180	1820	221	160	1417	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	331	348	91	154	259	410	180	1820	221	160	1417	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	2.00	3.57	0.43	2.00	3.00	1.00
Final Sat.:	3000	3300	1650	1650	3300	1650	3000	5885	715	3000	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.06	0.09	0.08	0.25	0.06	0.31	0.31	0.05	0.29	0.00
Crit Volume:	165					410		510		80		
Crit Moves:	****					****		****		****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1120 Bancroft Rd-Walnut Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.881
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	D

Street Name:	Bancroft Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	AddLane			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	1	0 2	1 0	1	0 2	1 0
Volume Module: >> Count Date: 12 Jun 2013 << 1630												
Base Vol:	610	400	173	175	292	135	179	1719	572	122	824	92
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	610	400	173	175	292	135	179	1719	572	122	824	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	649	426	184	186	311	144	190	1829	609	130	877	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	649	426	184	186	311	144	190	1829	609	130	877	98
RTOR Reduct:	0	0	130	0	0	144	0	0	0	0	0	0
RTOR Vol:	649	426	54	186	311	0	190	1829	609	130	877	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	649	426	54	186	311	0	190	1829	609	130	877	98
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.25	0.75	1.00	2.70	0.30
Final Sat.:	3000	3300	1650	1650	3300	1650	1650	3714	1236	1650	4453	497
Capacity Analysis Module:												
Vol/Sat:	0.22	0.13	0.03	0.11	0.09	0.00	0.12	0.49	0.49	0.08	0.20	0.20
Crit Volume:	324				155				812	130		
Crit Moves:	****				****				****	****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1130 Oak Grove Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.813
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	122	Level Of Service:	D

Street Name:	Treat Bl						Oak Grove Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	2	0 2	0 1	2	0 2	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 1645												
Base Vol:	281	453	232	260	485	135	203	1483	268	147	548	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	453	232	260	485	135	203	1483	268	147	548	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	287	462	237	265	495	138	207	1513	273	150	559	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	462	237	265	495	138	207	1513	273	150	559	123
RTOR Reduct:	0	0	0	0	0	0	0	0	273	0	0	123
RTOR Vol:	287	462	237	265	495	138	207	1513	0	150	559	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	462	237	265	495	138	207	1513	0	150	559	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.35	0.65	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3872	1078	3000	3300	1650	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.17	0.14	0.14	0.16	0.13	0.13	0.07	0.46	0.00	0.05	0.17	0.00
Crit Volume:			237	265				757		75		
Crit Moves:			****	****				****		****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1140 I-680 NB Off Ramp & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.994
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	NB I-680 Off Ramp						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			AddLane			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 2	1	1 0	0 1	1	0 1	0 1	1	0 2	1 0
Volume Module: >> Count Date: 12 Jun 2013 << 1700												
Base Vol:	217	131	1510	46	40	322	10	82	53	59	2011	243
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	217	131	1510	46	40	322	10	82	53	59	2011	243
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	221	134	1541	47	41	329	10	84	54	60	2052	248
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	134	1541	47	41	329	10	84	54	60	2052	248
RTOR Reduct:	0	0	60	0	0	10	0	0	54	0	0	0
RTOR Vol:	221	134	1481	47	41	318	10	84	0	60	2052	248
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	221	134	1481	47	41	318	10	84	0	60	2052	248
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	2.00	1.07	0.93	1.00	1.00	1.00	1.00	1.00	2.68	0.32
Final Sat.:	1650	1650	3000	1604	1535	1650	1650	1650	1650	1650	4416	534
Capacity Analysis Module:												
Vol/Sat:	0.13	0.08	0.49	0.03	0.03	0.19	0.01	0.05	0.00	0.04	0.46	0.46
Crit Volume:			740	44			10				767	
Crit Moves:			****	****			****				****	

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1150 Bancroft Rd-Walnut Av & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.783
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	105	Level Of Service:	C

Street Name:	Bancroft Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1 0	1 0	1	1 1	0 1	2	0 2	1 0	1	0 3	0 1
Volume Module:0445												
Base Vol:	251	231	38	239	376	365	473	2241	344	31	1361	510
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	251	231	38	239	376	365	473	2241	344	31	1361	510
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	251	231	38	239	376	365	473	2241	344	31	1361	510
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	231	38	239	376	365	473	2241	344	31	1361	510
RTOR Reduct:	0	0	0	0	0	260	0	0	0	0	0	131
RTOR Vol:	251	231	38	239	376	105	473	2241	344	31	1361	379
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	251	231	38	239	376	105	473	2241	344	31	1361	379
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.45	1.33	0.22	1.17	1.83	1.00	2.00	2.60	0.40	1.00	3.00	1.00
Final Sat.:	2178	2194	360	1749	3026	1650	3000	4291	659	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.11	0.14	0.12	0.06	0.16	0.52	0.52	0.02	0.27	0.23
Crit Volume:			174	205					862	31		
Crit Moves:			****	****					****	****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1160 Oak Grove Rd & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.846
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	148	Level Of Service:	D

Street Name:	Oak Grove Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 3	0 1	1	0 2	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 1645												
Base Vol:	140	277	266	332	415	213	268	2136	110	143	525	110
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	277	266	332	415	213	268	2136	110	143	525	110
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	147	292	280	349	437	224	282	2248	116	151	553	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	292	280	349	437	224	282	2248	116	151	553	116
RTOR Reduct:	0	0	151	0	0	0	0	0	116	0	0	116
RTOR Vol:	147	292	129	349	437	224	282	2248	0	151	553	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	292	129	349	437	224	282	2248	0	151	553	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	3000	4950	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.08	0.21	0.13	0.14	0.09	0.45	0.00	0.09	0.17	0.00
Crit Volume:		146			349			749			151	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1170 Ayers Rd & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.843
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	145	Level Of Service:	D

Street Name:	Ayers Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	2	0 2	0 1	1	0 2	0 1
Volume Module: >> Count Date: 12 Jun 2013 << 1700												
Base Vol:	23	6	2	103	10	128	277	2467	97	4	764	98
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	6	2	103	10	128	277	2467	97	4	764	98
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	24	6	2	106	10	132	286	2543	100	4	788	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	6	2	106	10	132	286	2543	100	4	788	101
RTOR Reduct:	0	0	0	0	0	132	0	0	24	0	0	101
RTOR Vol:	24	6	2	106	10	0	286	2543	76	4	788	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	6	2	106	10	0	286	2543	76	4	788	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.75	0.25	1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1237	413	1650	1650	1650	3000	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.06	0.01	0.00	0.10	0.77	0.05	0.00	0.24	0.00
Crit Volume:			8	106				1272		4		
Crit Moves:			****	****				****		****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec):	100	Critical Vol./Cap.(X):	0.439
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	41	Level Of Service:	A

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	1	0	0	0	1	0
Volume Module: >> Count Date: 12 Jun 2013 << 1615												
Base Vol:	132	44	383	19	99	0	0	16	105	237	16	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	44	383	19	99	0	0	16	105	237	16	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	147	49	426	21	110	0	0	18	117	263	18	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	49	426	21	110	0	0	18	117	263	18	8
RTOR Reduct:	0	0	263	0	0	0	0	0	0	0	0	0
RTOR Vol:	147	49	162	21	110	0	0	18	117	263	18	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	49	162	21	110	0	0	18	117	263	18	8
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.75	0.25	1.00	0.16	0.84	0.00	0.00	0.13	0.87	1.00	0.70	0.30
Final Sat.:	1238	413	1650	266	1384	0	0	218	1432	1650	1148	502
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.10	0.08	0.08	0.00	0.00	0.08	0.08	0.16	0.02	0.02
Crit Volume:		196			131				134	263		
Crit Moves:		****			****				****	****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1191 Willow Pass Rd & SR-4 WB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.661
Loss Time (sec):	0	Average Delay (sec/veh):	16.0
Optimal Cycle:	0	Level Of Service:	C

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1	1	0	0	0	0	2	0	1	0	0	0	0	0	1	1	0	0	1
Volume Module: >> Count Date: 12 Jun 2013 << 1615												
Base Vol:	205	493	0	0	181	254	0	0	0	259	4	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	493	0	0	181	254	0	0	0	259	4	65
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	223	536	0	0	197	0	0	0	0	282	4	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	536	0	0	197	0	0	0	0	282	4	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	536	0	0	197	0	0	0	0	282	4	71
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.59	1.41	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.97	0.03	1.00
Final Sat.:	337	838	0	0	960	525	0	0	0	949	15	569
Capacity Analysis Module:												
Vol/Sat:	0.66	0.64	xxxx	xxxx	0.21	0.00	xxxx	xxxx	xxxx	0.30	0.30	0.12
Crit Moves:	****				****						****	
Delay/Veh:	19.9	18.5	0.0	0.0	11.7	0.0	0.0	0.0	0.0	12.8	12.8	9.5
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.9	18.5	0.0	0.0	11.7	0.0	0.0	0.0	0.0	12.8	12.8	9.5
LOS by Move:	C	C	*	*	B	*	*	*	*	B	B	A
ApproachDel:		18.9			11.7			xxxxxx			12.1	
Delay Adj:		1.00			1.00			xxxxx			1.00	
ApprAdjDel:		18.9			11.7			xxxxxx			12.1	
LOS by Appr:		C			B			*			B	
AllWayAvgQ:	1.7	1.5	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.4	0.4	0.1

Note: Queue reported is the number of cars per lane.

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1201 Willow Pass Rd & SR-4 EB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.865
Loss Time (sec): 0 Average Delay (sec/veh): 22.1
Optimal Cycle: 0 Level Of Service: C

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	2	0	1	0	1	1	0	0	0	1
Volume Module:	5:00-6:00 PM											
Base Vol:	0	303	780	91	361	0	393	8	211	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	303	780	91	361	0	393	8	211	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.00	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	326	0	98	388	0	423	9	227	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	326	0	98	388	0	423	9	227	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	326	0	98	388	0	423	9	227	0	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	0.40	1.60	0.00	0.98	0.02	1.00	0.00	0.00	0.00
Final Sat.:	0	902	488	197	794	0	488	10	588	0	0	0
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.36	0.00	0.50	0.49	xxxx	0.87	0.87	0.39	xxxx	xxxx	xxxx
Crit Moves:		****		****				****				
Delay/Veh:	0.0	14.6	0.0	16.5	16.1	0.0	39.7	39.7	12.3	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.6	0.0	16.5	16.1	0.0	39.7	39.7	12.3	0.0	0.0	0.0
LOS by Move:	*	B	*	C	C	*	E	E	B	*	*	*
ApproachDel:		14.6			16.2			30.3			xxxxxx	
Delay Adj:		1.00			1.00			1.00			xxxxx	
ApprAdjDel:		14.6			16.2			30.3			xxxxxx	
LOS by Appr:		B			C			D			*	
AllWayAvgQ:	0.0	0.5	0.0	0.9	0.9	0.0	4.1	4.1	0.6	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1211 Willow Pass Rd & Avila Rd

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[19.7]

Street Name:	Willow Pass Rd									Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	T	R	L	T	R	L	T	R	L	T	R			
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign					
Rights:	Include			Include			Include			Include					
Lanes:	0	0	1	1	0	0	1	1	0	0	0	0	1	0	0	0	1
Volume Module:	>> Count Date: 12 Jun 2013 << 1700														
Base Vol:	0	1040	6	11	510	0	0	0	0	8	0	15			
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Initial Bse:	0	1040	6	11	510	0	0	0	0	8	0	15			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
PHF Volume:	0	1083	6	11	531	0	0	0	0	8	0	16			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
FinalVolume:	0	1083	6	11	531	0	0	0	0	8	0	16			
Critical Gap Module:															
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9			
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3			
Capacity Module:															
Cnflict Vol:	xxxx	xxxx	xxxxx	1090	xxxx	xxxxx	xxxx	xxxx	xxxxx	1375	xxxx	545			
Potent Cap.:	xxxx	xxxx	xxxxx	648	xxxx	xxxxx	xxxx	xxxx	xxxxx	139	xxxx	488			
Move Cap.:	xxxx	xxxx	xxxxx	648	xxxx	xxxxx	xxxx	xxxx	xxxxx	137	xxxx	488			
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	xxxx	0.03			
Level Of Service Module:															
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	0.1			
Control Del:	xxxxx	xxxx	xxxxx	10.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	33.0	xxxx	12.6			
LOS by Move:	*	*	*	B	*	*	*	*	*	D	*	B			
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx	10.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	*	*	B	*	*	*	*	*	*	*	*			
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			19.7					
ApproachLOS:	*			*			*			C					

Note: Queue reported is the number of cars per lane.

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	0.293
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	A

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 0	0	0 3	1 0	2	0 0	0 1	0	1 0	0 1
Volume Module: >> Count Date: 13 Jun 2013 << 1700												
Base Vol:	125	926	0	0	534	30	58	0	92	47	58	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	125	926	0	0	534	30	58	0	92	47	58	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	129	955	0	0	551	31	60	0	95	48	60	133
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	955	0	0	551	31	60	0	95	48	60	133
RTOR Reduct:	0	0	0	0	0	0	0	0	95	0	0	0
RTOR Vol:	129	955	0	0	551	31	60	0	0	48	60	133
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	955	0	0	551	31	60	0	0	48	60	133
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.79	0.21	2.00	0.00	1.00	0.45	0.55	1.00
Final Sat.:	1650	4950	0	0	6249	351	3000	0	1650	739	911	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.19	0.00	0.00	0.09	0.09	0.02	0.00	0.00	0.07	0.07	0.08
Crit Volume:		318		0			30					133
Crit Moves:		****		****			****					****

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.502
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 0	0	0 2	0 0	2	0 0	0 1	0	0 0	0 0
Volume Module: >> Count Date: 13 Jun 2013 << 5:00-6:00 PM												
Base Vol:	0	422	0	0	193	0	909	0	697	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	422	0	0	193	0	909	0	697	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	435	0	0	199	0	937	0	719	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	435	0	0	199	0	937	0	719	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	435	0	0	199	0	937	0	719	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	435	0	0	199	0	937	0	719	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	3127	0	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.08	0.00	0.00	0.06	0.00	0.30	0.00	0.42	0.00	0.00	0.00
Crit Volume:		145		0					719		0	
Crit Moves:		****		****					****			

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.332
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	A

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	1 0	2	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module: >> Count Date: 13 Jun 2013 << 5:00-6:00 PM												
Base Vol:	3	142	61	597	232	54	34	19	2	75	15	244
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	142	61	597	232	54	34	19	2	75	15	244
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	3	151	65	635	247	57	36	20	2	80	16	260
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	151	65	635	247	57	36	20	2	80	16	260
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	260
RTOR Vol:	3	151	65	635	247	57	36	20	2	80	16	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	151	65	635	247	57	36	20	2	80	16	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.40	0.60	2.00	1.62	0.38	1.00	1.81	0.19	1.00	2.00	1.00
Final Sat.:	1650	2308	992	3000	2677	623	1650	2986	314	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.07	0.07	0.21	0.09	0.09	0.02	0.01	0.01	0.05	0.00	0.00
Crit Volume:		108		318					11	80		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1250 Bailey Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.509
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Bailey Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 0	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module: >> Count Date: 13 Jun 2013 << 1700												
Base Vol:	200	33	439	18	23	19	17	530	168	176	249	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	200	33	439	18	23	19	17	530	168	176	249	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	208	34	457	19	24	20	18	552	175	183	259	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	208	34	457	19	24	20	18	552	175	183	259	15
RTOR Reduct:	0	0	183	0	0	0	0	0	0	0	0	0
RTOR Vol:	208	34	274	19	24	20	18	552	175	183	259	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	208	34	274	19	24	20	18	552	175	183	259	15
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.55	0.45	1.00	1.52	0.48	1.00	1.89	0.11
Final Sat.:	1650	1650	1650	1650	904	746	1650	2506	794	1650	3124	176
Capacity Analysis Module:												
Vol/Sat:	0.13	0.02	0.17	0.01	0.03	0.03	0.01	0.22	0.22	0.11	0.08	0.08
Crit Volume:			274	19					364	183		
Crit Moves:			****	****					****	****		

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec):	100	Critical Vol./Cap.(X):	1.111
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Ovl			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	2	0	2 0 1	0	1	1 0 1	0	0	0 0 1
Volume Module: >> Count Date: 12 Jun 2013 << 5:00-6:00 PM												
Base Vol:	0	669	92	85	613	230	159	254	620	0	0	769
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	669	92	85	613	230	159	254	620	0	0	769
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	712	98	90	652	245	169	270	660	0	0	818
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	712	98	90	652	245	169	270	660	0	0	818
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	50
RTOR Vol:	0	712	98	90	652	245	169	270	660	0	0	768
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	712	98	90	652	245	169	270	660	0	0	768
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	1.00	0.77	1.23	1.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	3000	3300	1650	1270	2030	1650	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.06	0.03	0.20	0.15	0.13	0.13	0.40	0.00	0.00	0.47
Crit Volume:		356		45					660			768
Crit Moves:		****		****					****			****

Former NWS Concord TIA
Existing Conditions - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.807
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	118	Level Of Service:	D

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 0 1	1	0	2 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module: >> Count Date: 12 Jun 2013 << 5:00-6:00 PM												
Base Vol:	104	665	161	398	751	215	217	776	137	104	331	185
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	665	161	398	751	215	217	776	137	104	331	185
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	107	686	166	410	774	222	224	800	141	107	341	191
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	686	166	410	774	222	224	800	141	107	341	191
RTOR Reduct:	0	0	107	0	0	222	0	0	0	0	0	191
RTOR Vol:	107	686	59	410	774	0	224	800	141	107	341	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	686	59	410	774	0	224	800	141	107	341	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.70	0.30	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	2805	495	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.21	0.04	0.25	0.23	0.00	0.14	0.29	0.29	0.06	0.10	0.00
Crit Volume:		343		410					471	107		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Future No Project - AM peak hour

Scenario Report

Scenario:	NoProjAM
Command:	NPAM
Volume:	NoProjAM
Geometry:	NoProj
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.622
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	B

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	2 0	1 1	0	1 0	0 1	0	1 0	0 1	1
Volume Module:												
Base Vol:	10	450	80	1321	380	28	76	12	28	78	4	570
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	450	80	1321	380	28	76	12	28	78	4	570
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	450	80	1321	380	28	76	12	28	78	4	570
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	450	80	1321	380	28	76	12	28	78	4	570
RTOR Reduct:	0	0	78	0	0	0	0	0	0	0	0	570
RTOR Vol:	10	450	2	1321	380	28	76	12	28	78	4	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	450	2	1321	380	28	76	12	28	78	4	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91
Lanes:	1.00	2.00	1.00	2.00	1.86	0.14	1.00	0.30	0.70	1.00	1.00	1.00
Final Sat.:	1720	3440	1720	3127	3204	236	1720	516	1204	1720	1720	1563
Capacity Analysis Module:												
Vol/Sat:	0.01	0.13	0.00	0.42	0.12	0.12	0.04	0.02	0.02	0.05	0.00	0.00
Crit Volume:		225		661				40		78		
Crit Moves:	****			****			****			****		

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1020 Port Chicago Hwy & Olivera Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.582
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	A

Street Name:	Port Chicago Hwy						Olivera Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 1	1	0	1 0 1	1	0	0 1 0
Volume Module:												
Base Vol:	78	313	36	131	306	75	90	124	82	73	240	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	78	313	36	131	306	75	90	124	82	73	240	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	78	313	36	131	306	75	90	124	82	73	240	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	313	36	131	306	75	90	124	82	73	240	150
RTOR Reduct:	0	0	0	0	0	75	0	0	78	0	0	0
RTOR Vol:	78	313	36	131	306	0	90	124	4	73	240	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	78	313	36	131	306	0	90	124	4	73	240	150
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.90	0.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.38
Final Sat.:	1650	1480	170	1650	1650	1650	1650	1650	1650	1650	1015	635
Capacity Analysis Module:												
Vol/Sat:	0.05	0.21	0.21	0.08	0.19	0.00	0.05	0.08	0.00	0.04	0.24	0.24
Crit Volume:			349	131			90					390
Crit Moves:			****	****			****					****

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1030 Farm Bureau Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.742
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	88	Level Of Service:	C

Street Name:	Farm Bureau Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0 1	1	0	1 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module:												
Base Vol:	139	336	97	155	509	33	25	372	63	129	1102	371
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	139	336	97	155	509	33	25	372	63	129	1102	371
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	139	336	97	155	509	33	25	372	63	129	1102	371
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	336	97	155	509	33	25	372	63	129	1102	371
RTOR Reduct:	0	0	97	0	0	25	0	0	0	0	0	155
RTOR Vol:	139	336	0	155	509	8	25	372	63	129	1102	216
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	336	0	155	509	8	25	372	63	129	1102	216
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.71	0.29	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	2822	478	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.20	0.00	0.09	0.31	0.00	0.02	0.13	0.13	0.08	0.33	0.13
Crit Volume:	139				509		25				551	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1040 SR 242-Commerce Av & Concord Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.642
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	B

Street Name:	SR242 SB-Commerce Av									Concord Av								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected				Protected				Protected				Protected					
Rights:	Include				Include				Include				Ignore					
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0			
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0			
Lanes:	1	0	1	0	1	2	0	0	1	1	0	0	2	1	0	1	0	3	0	1
Volume Module:																				
Base Vol:	19	26	78			1097	310	821			0	697	67			164	846	175		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	19	26	78			1097	310	821			0	697	67			164	846	175		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	19	26	78			1097	310	821			0	697	67			164	846	175		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	19	26	78			1097	310	821			0	697	67			164	846	175		
RTOR Reduct:	0	0	78			0	0	0			0	0	0			0	0	0		
RTOR Vol:	19	26	0			1097	310	821			0	697	67			164	846	175		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	19	26	0			1097	310	821			0	697	67			164	846	175		
Saturation Flow Module:																				
Sat/Lane:	1650	1650	1650			1650	1650	1650			1650	1650	1650			1650	1650	1650		
Adjustment:	1.00	1.00	1.00			0.91	1.00	0.91			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	1.00	1.00	1.00			2.00	0.55	1.45			0.00	2.74	0.26			1.00	3.00	1.00		
Final Sat.:	1650	1650	1650			3000	905	2178			0	4516	434			1650	4950	1650		
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.02	0.00			0.37	0.34	0.38			0.00	0.15	0.15			0.10	0.17	0.11		
Crit Volume:	19							566				255				164				
Crit Moves:	****							****				****				****				

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1050 West St & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.634
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	Level Of Service:	B

Street Name:	West St									Concord Bl								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected				Protected				Protected				Protected					
Rights:	Include				Include				Include				Include					
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0			
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0			
Lanes:	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	2	0	0
Volume Module:																				
Base Vol:	206	0	179			0	0	0			0	898	234			318	1246	0		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	206	0	179			0	0	0			0	898	234			318	1246	0		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	206	0	179			0	0	0			0	898	234			318	1246	0		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	206	0	179			0	0	0			0	898	234			318	1246	0		
RTOR Reduct:	0	0	179			0	0	0			0	0	0			0	0	0		
RTOR Vol:	206	0	0			0	0	0			0	898	234			318	1246	0		
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	206	0	0			0	0	0			0	898	234			318	1246	0		
Saturation Flow Module:																				
Sat/Lane:	1720	1720	1720			1720	1720	1720			1720	1720	1720			1720	1720	1720		
Adjustment:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Lanes:	1.00	0.00	1.00			0.00	0.00	0.00			0.00	1.59	0.41			1.00	2.00	0.00		
Final Sat.:	1720	0	1720			0	0	0			0	2729	711			1720	3440	0		
Capacity Analysis Module:																				
Vol/Sat:	0.12	0.00	0.00			0.00	0.00	0.00			0.00	0.33	0.33			0.18	0.36	0.00		
Crit Volume:	206							0				566				318				
Crit Moves:	****											****				****				

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1060 Denkinger Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.532
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	Denkinger Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	0	0 1!	0 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	155	4	42	8	12	12	4	488	192	185	1447	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	155	4	42	8	12	12	4	488	192	185	1447	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	4	42	8	12	12	4	488	192	185	1447	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	4	42	8	12	12	4	488	192	185	1447	13
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	8
RTOR Vol:	155	4	42	8	12	12	4	488	192	185	1447	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	4	42	8	12	12	4	488	192	185	1447	5
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.09	0.91	0.25	0.37	0.38	1.00	1.44	0.56	1.00	2.00	1.00
Final Sat.:	1720	150	1570	430	645	645	1720	2469	971	1720	3440	1720
Capacity Analysis Module:												
Vol/Sat:	0.09	0.03	0.03	0.02	0.02	0.02	0.00	0.20	0.20	0.11	0.42	0.00
Crit Volume:	155				32			4			724	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1070 Bailey Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.772
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	C

Street Name:	Bailey Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	45	104	15	95	520	660	133	266	147	66	1136	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	45	104	15	95	520	660	133	266	147	66	1136	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	45	104	15	95	520	660	133	266	147	66	1136	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	104	15	95	520	660	133	266	147	66	1136	54
RTOR Reduct:	0	0	0	0	0	133	0	0	45	0	0	54
RTOR Vol:	45	104	15	95	520	527	133	266	102	66	1136	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	45	104	15	95	520	527	133	266	102	66	1136	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1442	208	1650	1650	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.07	0.06	0.32	0.32	0.08	0.08	0.06	0.04	0.34	0.00
Crit Volume:	45					527	133				568	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1080 N Main St & Sunnyvale Av

Cycle (sec): 100 Critical Vol./Cap.(X): 1.010
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	N Main St						Sunnyvale Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	2	0 0	0 1
Volume Module:												
Base Vol:	37	236	1153	340	898	36	47	53	73	926	0	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	236	1153	340	898	36	47	53	73	926	0	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	236	1153	340	898	36	47	53	73	926	0	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	236	1153	340	898	36	47	53	73	926	0	85
RTOR Reduct:	0	0	509	0	0	0	0	0	0	0	0	85
RTOR Vol:	37	236	644	340	898	36	47	53	73	926	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	236	644	340	898	36	47	53	73	926	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.92	0.08	0.27	0.31	0.42	2.00	0.00	1.00
Final Sat.:	1650	3300	1650	1650	3173	127	448	505	696	3000	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.02	0.07	0.39	0.21	0.28	0.28	0.10	0.10	0.10	0.31	0.00	0.00
Crit Volume:			644	340					173	463		
Crit Moves:			****	****					****	****		

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1090 N Main St & Geary Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.838
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 141 Level Of Service: D

Street Name:	N Main St						Geary Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 2	0 1	1	0 1	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	72	147	252	680	974	141	43	595	159	525	319	1155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	147	252	680	974	141	43	595	159	525	319	1155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	72	147	252	680	974	141	43	595	159	525	319	1155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	147	252	680	974	141	43	595	159	525	319	1155
RTOR Reduct:	0	0	252	0	0	43	0	0	0	0	0	374
RTOR Vol:	72	147	0	680	974	98	43	595	159	525	319	781
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	72	147	0	680	974	98	43	595	159	525	319	781
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	1.58	0.42	2.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	2604	696	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.00	0.23	0.30	0.06	0.03	0.23	0.23	0.18	0.10	0.47
Crit Volume:	72				487		43					781
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1100 Buskirk Av & Treat Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.594
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 56 Level Of Service: A

Street Name:	Buskirk Av						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	0	0 0	0 0	2	0 2	0 0	0	0 3	0 1
Volume Module:												
Base Vol:	224	439	940	0	0	0	344	1064	0	0	1824	512
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	224	439	940	0	0	0	344	1064	0	0	1824	512
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	224	439	940	0	0	0	344	1064	0	0	1824	512
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	224	439	940	0	0	0	344	1064	0	0	1824	512
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	224	439	940	0	0	0	344	1064	0	0	1824	512
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	224	439	940	0	0	0	344	1064	0	0	1824	512
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	3.00	1.00
Final Sat.:	1720	3440	1720	0	0	0	3127	3440	0	0	5160	1720
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.55	0.00	0.00	0.00	0.11	0.31	0.00	0.00	0.35	0.30
Crit Volume:	224				0		172				608	
Crit Moves:	****						****				****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1110 Oak Rd & Treat Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.604
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 58 Level Of Service: B

Street Name:	Oak Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	2	0 3	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	268	199	67	127	311	244	157	1537	280	403	1817	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	268	199	67	127	311	244	157	1537	280	403	1817	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	268	199	67	127	311	244	157	1537	280	403	1817	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	268	199	67	127	311	244	157	1537	280	403	1817	65
RTOR Reduct:	0	0	67	0	0	86	0	0	0	0	0	65
RTOR Vol:	268	199	0	127	311	158	157	1537	280	403	1817	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	268	199	0	127	311	158	157	1537	280	403	1817	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	2.00	3.38	0.62	2.00	3.00	1.00
Final Sat.:	3000	3300	1650	1650	3300	1650	3000	5583	1017	3000	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.06	0.00	0.08	0.09	0.10	0.05	0.28	0.28	0.13	0.37	0.00
Crit Volume:	134					158	79				606	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1120 Bancroft Rd-Walnut Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.839
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	141	Level Of Service:	D

Street Name:	Bancroft Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	AddLane			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	643	260	181	180	562	227	55	789	532	217	1951	101
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	643	260	181	180	562	227	55	789	532	217	1951	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	643	260	181	180	562	227	55	789	532	217	1951	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	643	260	181	180	562	227	55	789	532	217	1951	101
RTOR Reduct:	0	0	181	0	0	55	0	0	0	0	0	0
RTOR Vol:	643	260	0	180	562	172	55	789	532	217	1951	101
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	643	260	0	180	562	172	55	789	532	217	1951	101
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.85	0.15
Final Sat.:	3000	3300	1650	1650	3300	1650	1650	3300	1650	1650	4706	244
Capacity Analysis Module:												
Vol/Sat:	0.21	0.08	0.00	0.11	0.17	0.10	0.03	0.24	0.32	0.13	0.41	0.41
Crit Volume:	322				281				532	217		
Crit Moves:	****				****				****	****		

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1130 Oak Grove Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.986
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Treat Bl						Oak Grove Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	2	0 2	0 1	2	0 2	0 1
Volume Module:												
Base Vol:	373	696	124	127	735	113	133	438	350	445	1797	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	373	696	124	127	735	113	133	438	350	445	1797	160
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	373	696	124	127	735	113	133	438	350	445	1797	160
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	373	696	124	127	735	113	133	438	350	445	1797	160
RTOR Reduct:	0	0	0	0	0	0	0	0	350	0	0	127
RTOR Vol:	373	696	124	127	735	113	133	438	0	445	1797	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	373	696	124	127	735	113	133	438	0	445	1797	33
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.55	0.45	1.00	2.60	0.40	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1650	4201	749	1650	4290	660	3000	3300	1650	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.23	0.17	0.17	0.08	0.17	0.17	0.04	0.13	0.00	0.15	0.54	0.02
Crit Volume:	373				283		67				899	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1140 I-680 NB Off Ramp & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.999
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	NB I-680 Off Ramp						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			AddLane			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 2	1	1 0	0 1	1	0 1	0 1	1	0 2	1 0
Volume Module:												
Base Vol:	369	280	1909	91	43	100	10	126	85	207	1673	213
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	369	280	1909	91	43	100	10	126	85	207	1673	213
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	369	280	1909	91	43	100	10	126	85	207	1673	213
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	369	280	1909	91	43	100	10	126	85	207	1673	213
RTOR Reduct:	0	0	207	0	0	10	0	0	85	0	0	0
RTOR Vol:	369	280	1702	91	43	90	10	126	0	207	1673	213
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	369	280	1702	91	43	90	10	126	0	207	1673	213
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	2.00	1.36	0.64	1.00	1.00	1.00	1.00	1.00	2.66	0.34
Final Sat.:	1650	1650	3000	2037	1059	1650	1650	1650	1650	1650	4391	559
Capacity Analysis Module:												
Vol/Sat:	0.22	0.17	0.57	0.04	0.04	0.05	0.01	0.08	0.00	0.13	0.38	0.38
Crit Volume:			851	67			10				629	
Crit Moves:			****	****			****				****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1150 Bancroft Rd-Walnut Av & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.800
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	114	Level Of Service:	D

Street Name:	Bancroft Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1 0	1 0	1	1 1	0 1	2	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	471	238	72	697	410	454	228	1206	169	94	1586	236
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	471	238	72	697	410	454	228	1206	169	94	1586	236
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	471	238	72	697	410	454	228	1206	169	94	1586	236
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	471	238	72	697	410	454	228	1206	169	94	1586	236
RTOR Reduct:	0	0	0	0	0	125	0	0	0	0	0	236
RTOR Vol:	471	238	72	697	410	329	228	1206	169	94	1586	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	471	238	72	697	410	329	228	1206	169	94	1586	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.81	0.91	0.28	1.89	1.11	1.00	2.00	2.63	0.37	1.00	3.00	1.00
Final Sat.:	2712	1510	457	2833	1833	1650	3000	4342	608	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.17	0.16	0.16	0.25	0.22	0.20	0.08	0.28	0.28	0.06	0.32	0.00
Crit Volume:		260		369			114				529	
Crit Moves:		****		****			****				****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1160 Oak Grove Rd & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.950
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Oak Grove Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 3	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	157	592	397	93	573	256	303	547	77	300	1065	1050
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	157	592	397	93	573	256	303	547	77	300	1065	1050
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	157	592	397	93	573	256	303	547	77	300	1065	1050
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	592	397	93	573	256	303	547	77	300	1065	1050
RTOR Reduct:	0	0	300	0	0	0	0	0	77	0	0	93
RTOR Vol:	157	592	97	93	573	256	303	547	0	300	1065	957
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	157	592	97	93	573	256	303	547	0	300	1065	957
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	3000	4950	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.10	0.18	0.06	0.06	0.17	0.16	0.10	0.11	0.00	0.18	0.32	0.58
Crit Volume:	157				287		152					957
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1170 Ayers Rd & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.798
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 113 Level Of Service: C

Street Name:	Ayers Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	2	0 3	0 1	1	0 3	0 1
Volume Module:												
Base Vol:	20	27	0	163	72	381	110	831	33	2	2746	93
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	27	0	163	72	381	110	831	33	2	2746	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	27	0	163	72	381	110	831	33	2	2746	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	27	0	163	72	381	110	831	33	2	2746	93
RTOR Reduct:	0	0	0	0	0	61	0	0	20	0	0	93
RTOR Vol:	20	27	0	163	72	321	110	831	13	2	2746	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	27	0	163	72	321	110	831	13	2	2746	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	1.00	1.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1650	1650	0	1650	1650	1650	3000	4950	1650	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.00	0.10	0.04	0.19	0.04	0.17	0.01	0.00	0.55	0.00
Crit Volume:	20					321	55				915	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec):	100	Critical Vol./Cap.(X):	1.547
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	1	0	0	0	0	1
Volume Module:												
Base Vol:	119	87	146	9	61	0	0	7	134	2136	33	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	119	87	146	9	61	0	0	7	134	2136	33	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	119	87	146	9	61	0	0	7	134	2136	33	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	119	87	146	9	61	0	0	7	134	2136	33	25
RTOR Reduct:	0	0	146	0	0	0	0	0	0	0	0	0
RTOR Vol:	119	87	0	9	61	0	0	7	134	2136	33	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	119	87	0	9	61	0	0	7	134	2136	33	25
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.58	0.42	1.00	0.13	0.87	0.00	0.00	0.05	0.95	1.00	0.57	0.43
Final Sat.:	953	697	1650	212	1438	0	0	82	1568	1650	939	711
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.00	0.04	0.04	0.00	0.00	0.09	0.09	1.29	0.04	0.04
Crit Volume:		206			70			141		2136		
Crit Moves:		****			****			****		****		

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1190 Willow Pass Rd & SR-4 WB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.709
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	78	Level Of Service:	C

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	0	0	0	2	0	1	0	0
Volume Module:												
Base Vol:	402	222	0	0	244	2126	0	0	0	1055	209	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	402	222	0	0	244	2126	0	0	0	1055	209	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	402	222	0	0	244	2126	0	0	0	1055	209	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	402	222	0	0	244	2126	0	0	0	1055	209	129
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	402	222	0	0	244	2126	0	0	0	1055	209	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	402	222	0	0	244	2126	0	0	0	1055	209	129
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.67	0.33	1.00
Final Sat.:	1720	3440	0	0	3440	1720	0	0	0	2610	569	1720
Capacity Analysis Module:												
Vol/Sat:	0.23	0.06	0.00	0.00	0.07	1.24	0.00	0.00	0.00	0.40	0.37	0.08
Crit Volume:	402				122			0		632		
Crit Moves:	****				****					****		

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1200 Willow Pass Rd & SR-4 EB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.483
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: A

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0	1	1 0	2 0	0	1 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	544	241	35	1302	0	144	1	180	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	544	241	35	1302	0	144	1	180	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	544	241	35	1302	0	144	1	180	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	544	241	35	1302	0	144	1	180	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	544	241	35	1302	0	144	1	180	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	544	241	35	1302	0	144	1	180	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.99	0.01	1.00	0.00	0.00	0.00
Final Sat.:	0	3440	1720	1720	3440	0	1708	12	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.14	0.02	0.38	0.00	0.08	0.08	0.10	0.00	0.00	0.00
Crit Volume:	0				651				180		0	
Crit Moves:	****				****				****			

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1210 Willow Pass Rd & Avila Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.094
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Willow Pass Rd						Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1 1	0	1 0	2 0	0	0 0	0 0	1	0 0	0 1
Volume Module:												
Base Vol:	0	669	22	182	1210	0	0	0	0	1276	0	148
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	669	22	182	1210	0	0	0	0	1276	0	148
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	669	22	182	1210	0	0	0	0	1276	0	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	669	22	182	1210	0	0	0	0	1276	0	148
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	148
RTOR Vol:	0	669	22	182	1210	0	0	0	0	1276	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	669	22	182	1210	0	0	0	0	1276	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.94	0.06	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3330	110	1720	3440	0	0	0	0	1720	0	1720
Capacity Analysis Module:												
Vol/Sat:	0.00	0.20	0.20	0.11	0.35	0.00	0.00	0.00	0.00	0.74	0.00	0.00
Crit Volume:	0				605				0		1276	
Crit Moves:	****				****						****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	1.201
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0	0	0 3	1 0	2	0 0	0 1	0	1 0	0 1
Volume Module:												
Base Vol:	753	480	0	0	2157	501	82	0	370	113	406	276
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	753	480	0	0	2157	501	82	0	370	113	406	276
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	753	480	0	0	2157	501	82	0	370	113	406	276
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	753	480	0	0	2157	501	82	0	370	113	406	276
RTOR Reduct:	0	0	0	0	0	0	0	0	370	0	0	0
RTOR Vol:	753	480	0	0	2157	501	82	0	0	113	406	276
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	753	480	0	0	2157	501	82	0	0	113	406	276
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.25	0.75	2.00	0.00	1.00	0.22	0.78	1.00
Final Sat.:	1650	4950	0	0	5356	1244	3000	0	1650	359	1291	1650
Capacity Analysis Module:												
Vol/Sat:	0.46	0.10	0.00	0.00	0.40	0.40	0.03	0.00	0.00	0.31	0.31	0.17
Crit Volume:	753				665		41				519	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.810
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	76	Level Of Service:	D

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0	0	0 2	0 0	2	0 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	3061	0	0	357	0	458	0	373	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3061	0	0	357	0	458	0	373	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3061	0	0	357	0	458	0	373	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3061	0	0	357	0	458	0	373	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	3061	0	0	357	0	458	0	373	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3061	0	0	357	0	458	0	373	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	3127	0	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.59	0.00	0.00	0.10	0.00	0.15	0.00	0.22	0.00	0.00	0.00
Crit Volume:		1020		0					373		0	
Crit Moves:		****		****					****			

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.835
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	138	Level Of Service:	D

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	15	484	216	734	302	186	63	205	16	245	1337	847
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	484	216	734	302	186	63	205	16	245	1337	847
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	484	216	734	302	186	63	205	16	245	1337	847
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	484	216	734	302	186	63	205	16	245	1337	847
RTOR Reduct:	0	0	216	0	0	0	0	0	0	0	0	404
RTOR Vol:	15	484	0	734	302	186	63	205	16	245	1337	443
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	484	0	734	302	186	63	205	16	245	1337	443
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.24	0.76	1.00	1.86	0.14	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	2042	1258	1650	3061	239	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.15	0.00	0.24	0.15	0.15	0.04	0.07	0.07	0.15	0.41	0.27
Crit Volume:		242			367			63			669	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1250 Bailey Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.720
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	C

Street Name:	Bailey Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 0	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	216	3	130	0	1	4	3	345	310	230	1924	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	216	3	130	0	1	4	3	345	310	230	1924	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	216	3	130	0	1	4	3	345	310	230	1924	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	216	3	130	0	1	4	3	345	310	230	1924	3
RTOR Reduct:	0	0	130	0	0	0	0	0	0	0	0	0
RTOR Vol:	216	3	0	0	1	4	3	345	310	230	1924	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	216	3	0	0	1	4	3	345	310	230	1924	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.20	0.80	1.00	1.05	0.95	1.00	1.99	0.01
Final Sat.:	1650	1650	1650	1650	330	1320	1650	1738	1562	1650	3295	5
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.14	0.58	0.58
Crit Volume:	216				5			3			964	
Crit Moves:	****				****			****			****	

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec):	100	Critical Vol./Cap.(X):	0.681
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	B

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Ovl			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	2	0	2 0 1	0	1	1 0 1	0	0	0 0 1
Volume Module:												
Base Vol:	0	957	158	151	744	337	435	211	440	0	0	205
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	957	158	151	744	337	435	211	440	0	0	205
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	957	158	151	744	337	435	211	440	0	0	205
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	957	158	151	744	337	435	211	440	0	0	205
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	83
RTOR Vol:	0	957	158	151	744	337	435	211	440	0	0	122
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	957	158	151	744	337	435	211	440	0	0	122
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	3000	3300	1650	1650	1650	1650	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.10	0.05	0.23	0.20	0.26	0.13	0.27	0.00	0.00	0.07
Crit Volume:		478			76				440			122
Crit Moves:		****			****				****			****

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.876
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	D

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 0 1	1	0	2 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module:												
Base Vol:	181	400	171	101	439	91	308	1530	229	165	437	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	181	400	171	101	439	91	308	1530	229	165	437	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	181	400	171	101	439	91	308	1530	229	165	437	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	181	400	171	101	439	91	308	1530	229	165	437	85
RTOR Reduct:	0	0	165	0	0	91	0	0	0	0	0	85
RTOR Vol:	181	400	6	101	439	0	308	1530	229	165	437	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	181	400	6	101	439	0	308	1530	229	165	437	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.74	0.26	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	2870	430	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.12	0.00	0.06	0.13	0.00	0.19	0.53	0.53	0.10	0.13	0.00
Crit Volume:	181				220				880	165		
Crit Moves:	****				****				****	****		

Former NWS Concord TIA
Future No Project - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1280 Kirker Pass Rd & James Donlon Blvd [Future extension of James

Cycle (sec):	100	Critical Vol./Cap.(X):	1.145
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Kirker Pass Rd						James Donlon Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.0	0 1.0	2.0	0 2.0	0 0.0	0	0 0.0	0 0.0	1.0	0 0.0	0 1.0
Volume Module:												
Base Vol:	0	367	982	354	1562	0	0	0	0	1188	0	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	367	982	354	1562	0	0	0	0	1188	0	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	367	982	354	1562	0	0	0	0	1188	0	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	367	982	354	1562	0	0	0	0	1188	0	67
RTOR Reduct:	0	0	982	0	0	0	0	0	0	0	0	67
RTOR Vol:	0	367	0	354	1562	0	0	0	0	1188	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	367	0	354	1562	0	0	0	0	1188	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3440	1720	3127	3440	0	0	0	0	1720	0	1720
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.00	0.11	0.45	0.00	0.00	0.00	0.00	0.69	0.00	0.00
Crit Volume:		184			781			0		1188		
Crit Moves:					****					****		

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Future No Project - PM peak hour

Scenario Report

Scenario:	NoProjPM
Command:	NPPM
Volume:	NoProjPM
Geometry:	NoProj
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.772
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	82	Level Of Service:	C

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	2 0	1 1	0	1 0	0 1	0	1 0	0 1	1
Volume Module:												
Base Vol:	20	541	84	954	543	78	77	7	12	93	11	1342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	541	84	954	543	78	77	7	12	93	11	1342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	541	84	954	543	78	77	7	12	93	11	1342
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	541	84	954	543	78	77	7	12	93	11	1342
RTOR Reduct:	0	0	84	0	0	0	0	0	0	0	0	525
RTOR Vol:	20	541	0	954	543	78	77	7	12	93	11	817
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	541	0	954	543	78	77	7	12	93	11	817
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91
Lanes:	1.00	2.00	1.00	2.00	1.75	0.25	1.00	0.37	0.63	1.00	0.03	1.97
Final Sat.:	1720	3440	1720	3127	3008	432	1720	634	1086	1720	46	3085
Capacity Analysis Module:												
Vol/Sat:	0.01	0.16	0.00	0.31	0.18	0.18	0.04	0.01	0.01	0.05	0.24	0.26
Crit Volume:		271			477			77				414
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1020 Port Chicago Hwy & Olivera Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.739
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 87 Level Of Service: C

Street Name:	Port Chicago Hwy						Olivera Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 1	0 1	0	1	0 1	0	0
Volume Module:												
Base Vol:	111	395	93	258	360	93	107	417	127	56	207	102
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	111	395	93	258	360	93	107	417	127	56	207	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	111	395	93	258	360	93	107	417	127	56	207	102
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	395	93	258	360	93	107	417	127	56	207	102
RTOR Reduct:	0	0	0	0	0	93	0	0	111	0	0	0
RTOR Vol:	111	395	93	258	360	0	107	417	16	56	207	102
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	395	93	258	360	0	107	417	16	56	207	102
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.81	0.19	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.33
Final Sat.:	1650	1336	314	1650	1650	1650	1650	1650	1650	1650	1105	545
Capacity Analysis Module:												
Vol/Sat:	0.07	0.30	0.30	0.16	0.22	0.00	0.06	0.25	0.01	0.03	0.19	0.19
Crit Volume:			488	258				417		56		
Crit Moves:			****	****				****		****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1030 Farm Bureau Rd & Willow Pass Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.032
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Farm Bureau Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0	1	0	1 0	1	0	1 1	1 0	2	0 1
Volume Module:												
Base Vol:	93	693	213	326	579	28	36	1000	91	138	284	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	93	693	213	326	579	28	36	1000	91	138	284	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	93	693	213	326	579	28	36	1000	91	138	284	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	693	213	326	579	28	36	1000	91	138	284	188
RTOR Reduct:	0	0	138	0	0	28	0	0	0	0	0	188
RTOR Vol:	93	693	75	326	579	0	36	1000	91	138	284	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	93	693	75	326	579	0	36	1000	91	138	284	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.83	0.17	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	3025	275	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.42	0.05	0.20	0.35	0.00	0.02	0.33	0.33	0.08	0.09	0.00
Crit Volume:		693		326					546	138		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1040 SR 242-Commerce Av & Concord Av

Cycle (sec): 100 Critical Vol./Cap.(X): 0.804
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 116 Level Of Service: D

Street Name:	SR242 SB-Commerce Av						Concord Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	2	0 0	1 1	0	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	34	142	280	784	100	458	0	1693	54	171	779	380
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	142	280	784	100	458	0	1693	54	171	779	380
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	34	142	280	784	100	458	0	1693	54	171	779	380
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	142	280	784	100	458	0	1693	54	171	779	380
RTOR Reduct:	0	0	171	0	0	0	0	0	0	0	0	0
RTOR Vol:	34	142	109	784	100	458	0	1693	54	171	779	380
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	34	142	109	784	100	458	0	1693	54	171	779	380
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	2.00	0.36	1.64	0.00	2.91	0.09	1.00	3.00	1.00
Final Sat.:	1650	1650	1650	3000	591	2462	0	4797	153	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.02	0.09	0.07	0.26	0.17	0.19	0.00	0.35	0.35	0.10	0.16	0.23
Crit Volume:		142		392					582	171		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1050 West St & Concord Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.552
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 51 Level Of Service: A

Street Name:	West St						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	0 1	0	0 0	0 0	0	0 1	1 0	1	0 2	0 0
Volume Module:												
Base Vol:	149	0	57	0	0	0	0	1449	75	39	906	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	0	57	0	0	0	0	1449	75	39	906	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	149	0	57	0	0	0	0	1449	75	39	906	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	149	0	57	0	0	0	0	1449	75	39	906	0
RTOR Reduct:	0	0	39	0	0	0	0	0	0	0	0	0
RTOR Vol:	149	0	18	0	0	0	0	1449	75	39	906	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	149	0	18	0	0	0	0	1449	75	39	906	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.90	0.10	1.00	2.00	0.00
Final Sat.:	1720	0	1720	0	0	0	0	3271	169	1720	3440	0
Capacity Analysis Module:												
Vol/Sat:	0.09	0.00	0.01	0.00	0.00	0.00	0.00	0.44	0.44	0.02	0.26	0.00
Crit Volume:	149				0			762		39		
Crit Moves:	****							****		****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1060 Denkinger Rd & Concord Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.610
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 Level Of Service: B

Street Name:	Denkinger Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	0	0 1!	0 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	240	8	120	6	8	6	10	1281	171	63	700	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	240	8	120	6	8	6	10	1281	171	63	700	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	240	8	120	6	8	6	10	1281	171	63	700	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	240	8	120	6	8	6	10	1281	171	63	700	9
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	6
RTOR Vol:	240	8	120	6	8	6	10	1281	171	63	700	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	240	8	120	6	8	6	10	1281	171	63	700	3
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.06	0.94	0.30	0.40	0.30	1.00	1.76	0.24	1.00	2.00	1.00
Final Sat.:	1720	108	1613	516	688	516	1720	3035	405	1720	3440	1720
Capacity Analysis Module:												
Vol/Sat:	0.14	0.07	0.07	0.01	0.01	0.01	0.01	0.42	0.42	0.04	0.20	0.00
Crit Volume:	240			20			726			63		
Crit Moves:	****			****			****			****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1070 Bailey Rd & Concord Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.532
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: A

Street Name:	Bailey Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	70	217	40	63	131	300	348	921	99	26	418	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	217	40	63	131	300	348	921	99	26	418	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	217	40	63	131	300	348	921	99	26	418	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	217	40	63	131	300	348	921	99	26	418	65
RTOR Reduct:	0	0	0	0	0	300	0	0	70	0	0	63
RTOR Vol:	70	217	40	63	131	0	348	921	29	26	418	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	217	40	63	131	0	348	921	29	26	418	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1393	257	1650	1650	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.16	0.16	0.04	0.08	0.00	0.21	0.28	0.02	0.02	0.13	0.00
Crit Volume:	257			63			348			209		
Crit Moves:	****			****			****			****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1080 N Main St & Sunnyvale Av

Cycle (sec): 100 Critical Vol./Cap.(X): 0.865
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 169 Level Of Service: D

Street Name:	N Main St						Sunnyvale Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	2	0 0	0 1
Volume Module:												
Base Vol:	89	585	786	397	568	108	81	49	59	998	0	252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	585	786	397	568	108	81	49	59	998	0	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	585	786	397	568	108	81	49	59	998	0	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	585	786	397	568	108	81	49	59	998	0	252
RTOR Reduct:	0	0	549	0	0	0	0	0	0	0	0	252
RTOR Vol:	89	585	237	397	568	108	81	49	59	998	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	585	237	397	568	108	81	49	59	998	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.68	0.32	0.43	0.26	0.31	2.00	0.00	1.00
Final Sat.:	1650	3300	1650	1650	2773	527	707	428	515	3000	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.18	0.14	0.24	0.20	0.20	0.11	0.11	0.11	0.33	0.00	0.00
Crit Volume:		293		397				189		499		
Crit Moves:		****		****				****		****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1090 N Main St & Geary Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.946
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	N Main St						Geary Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 2	0 1	1	0 1	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	264	476	473	831	518	240	76	613	259	781	497	894
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	264	476	473	831	518	240	76	613	259	781	497	894
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	264	476	473	831	518	240	76	613	259	781	497	894
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	264	476	473	831	518	240	76	613	259	781	497	894
RTOR Reduct:	0	0	430	0	0	76	0	0	0	0	0	457
RTOR Vol:	264	476	43	831	518	164	76	613	259	781	497	437
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	264	476	43	831	518	164	76	613	259	781	497	437
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	1.41	0.59	2.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	2320	980	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.16	0.14	0.03	0.28	0.16	0.10	0.05	0.26	0.26	0.26	0.15	0.26
Crit Volume:		238		416					436	391		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1100 Buskirk Av & Treat Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.655
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 66 Level Of Service: B

Street Name:	Buskirk Av						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	0	0 0	0 0	2	0 2	0 0	0	0 3	0 1
Volume Module:												
Base Vol:	198	279	825	0	0	0	510	1256	0	0	1942	580
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	198	279	825	0	0	0	510	1256	0	0	1942	580
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	198	279	825	0	0	0	510	1256	0	0	1942	580
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	279	825	0	0	0	510	1256	0	0	1942	580
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	198	279	825	0	0	0	510	1256	0	0	1942	580
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	198	279	825	0	0	0	510	1256	0	0	1942	580
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	3.00	1.00
Final Sat.:	1720	3440	1720	0	0	0	3127	3440	0	0	5160	1720
Capacity Analysis Module:												
Vol/Sat:	0.12	0.08	0.48	0.00	0.00	0.00	0.16	0.37	0.00	0.00	0.38	0.34
Crit Volume:	198				0		255				647	
Crit Moves:	****						****				****	

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1110 Oak Rd & Treat Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.784
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 106 Level Of Service: C

Street Name:	Oak Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	2	0 3	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	347	331	177	146	351	484	171	1729	263	312	1858	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	347	331	177	146	351	484	171	1729	263	312	1858	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	347	331	177	146	351	484	171	1729	263	312	1858	78
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	347	331	177	146	351	484	171	1729	263	312	1858	78
RTOR Reduct:	0	0	172	0	0	94	0	0	0	0	0	78
RTOR Vol:	347	331	5	146	351	390	171	1729	263	312	1858	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	347	331	5	146	351	390	171	1729	263	312	1858	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	2.00	3.47	0.53	2.00	3.00	1.00
Final Sat.:	3000	3300	1650	1650	3300	1650	3000	5729	871	3000	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.10	0.00	0.09	0.11	0.24	0.06	0.30	0.30	0.10	0.38	0.00
Crit Volume:	174					390	86				619	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1120 Bancroft Rd-Walnut Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.929
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Bancroft Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	AddLane			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	776	488	173	183	373	194	207	1719	615	142	1084	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	776	488	173	183	373	194	207	1719	615	142	1084	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	776	488	173	183	373	194	207	1719	615	142	1084	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	776	488	173	183	373	194	207	1719	615	142	1084	116
RTOR Reduct:	0	0	142	0	0	194	0	0	0	0	0	0
RTOR Vol:	776	488	31	183	373	0	207	1719	615	142	1084	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	776	488	31	183	373	0	207	1719	615	142	1084	116
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.21	0.79	1.00	2.71	0.29
Final Sat.:	3000	3300	1650	1650	3300	1650	1650	3646	1304	1650	4472	479
Capacity Analysis Module:												
Vol/Sat:	0.26	0.15	0.02	0.11	0.11	0.00	0.13	0.47	0.47	0.09	0.24	0.24
Crit Volume:	388				187				778	142		
Crit Moves:	****				****				****	****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1130 Oak Grove Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.833
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	137	Level Of Service:	D

Street Name:	Treat Bl						Oak Grove Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	2	0 2	0 1	2	0 2	0 1
Volume Module:												
Base Vol:	332	545	264	269	485	144	217	1502	268	150	795	178
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	332	545	264	269	485	144	217	1502	268	150	795	178
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	332	545	264	269	485	144	217	1502	268	150	795	178
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	332	545	264	269	485	144	217	1502	268	150	795	178
RTOR Reduct:	0	0	0	0	0	0	0	0	268	0	0	178
RTOR Vol:	332	545	264	269	485	144	217	1502	0	150	795	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	332	545	264	269	485	144	217	1502	0	150	795	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.02	0.98	1.00	2.31	0.69	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1650	3335	1615	1650	3817	1133	3000	3300	1650	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.20	0.16	0.16	0.16	0.13	0.13	0.07	0.46	0.00	0.05	0.24	0.00
Crit Volume:	332					210		751		75		
Crit Moves:	****					****		****		****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1140 I-680 NB Off Ramp & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.020
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	NB I-680 Off Ramp						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			AddLane			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 2	1	1 0	0 1	1	0 1	0 1	1	0 2	1 0
Volume Module:												
Base Vol:	217	131	1545	54	40	322	10	164	74	134	2192	342
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	217	131	1545	54	40	322	10	164	74	134	2192	342
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	131	1545	54	40	322	10	164	74	134	2192	342
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	131	1545	54	40	322	10	164	74	134	2192	342
RTOR Reduct:	0	0	134	0	0	10	0	0	74	0	0	0
RTOR Vol:	217	131	1411	54	40	312	10	164	0	134	2192	342
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	131	1411	54	40	312	10	164	0	134	2192	342
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	2.00	1.15	0.85	1.00	1.00	1.00	1.00	1.00	2.60	0.40
Final Sat.:	1650	1650	3000	1723	1404	1650	1650	1650	1650	1650	4282	668
Capacity Analysis Module:												
Vol/Sat:	0.13	0.08	0.47	0.03	0.03	0.19	0.01	0.10	0.00	0.08	0.51	0.51
Crit Volume:			706	47			10					845
Crit Moves:			****	****			****					****

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1150 Bancroft Rd-Walnut Av & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.809
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 119 Level Of Service: D

Street Name:	Bancroft Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1 0	1 0	1	1 1	0 1	2	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	251	274	38	249	437	423	492	2241	344	33	1477	682
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	251	274	38	249	437	423	492	2241	344	33	1477	682
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	251	274	38	249	437	423	492	2241	344	33	1477	682
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	274	38	249	437	423	492	2241	344	33	1477	682
RTOR Reduct:	0	0	0	0	0	271	0	0	0	0	0	137
RTOR Vol:	251	274	38	249	437	152	492	2241	344	33	1477	545
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	251	274	38	249	437	152	492	2241	344	33	1477	545
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.34	1.46	0.20	1.09	1.91	1.00	2.00	2.60	0.40	1.00	3.00	1.00
Final Sat.:	2012	2405	332	1633	3153	1650	3000	4291	659	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.11	0.15	0.14	0.09	0.16	0.52	0.52	0.02	0.30	0.33
Crit Volume:			189	229					862	33		
Crit Moves:			****	****					****	****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1160 Oak Grove Rd & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.907
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Oak Grove Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 3	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	147	330	333	332	422	213	268	2140	130	286	744	176
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	147	330	333	332	422	213	268	2140	130	286	744	176
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	147	330	333	332	422	213	268	2140	130	286	744	176
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	330	333	332	422	213	268	2140	130	286	744	176
RTOR Reduct:	0	0	286	0	0	0	0	0	130	0	0	176
RTOR Vol:	147	330	47	332	422	213	268	2140	0	286	744	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	330	47	332	422	213	268	2140	0	286	744	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	3000	4950	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.10	0.03	0.20	0.13	0.13	0.09	0.43	0.00	0.17	0.23	0.00
Crit Volume:		165		332				713		286		
Crit Moves:		****		****				****		****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1170 Ayers Rd & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.622
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 60 Level Of Service: B

Street Name:	Ayers Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	2	0 3	0 1	1	0 3	0 1
Volume Module:												
Base Vol:	65	20	5	133	13	167	344	2592	103	5	993	149
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	65	20	5	133	13	167	344	2592	103	5	993	149
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	20	5	133	13	167	344	2592	103	5	993	149
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	20	5	133	13	167	344	2592	103	5	993	149
RTOR Reduct:	0	0	0	0	0	167	0	0	65	0	0	133
RTOR Vol:	65	20	5	133	13	0	344	2592	38	5	993	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	20	5	133	13	0	344	2592	38	5	993	16
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.80	0.20	1.00	1.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1650	1320	330	1650	1650	1650	3000	4950	1650	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.02	0.08	0.01	0.00	0.11	0.52	0.02	0.00	0.20	0.01
Crit Volume:		25		133				864		5		
Crit Moves:		****		****				****		****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec): 100 Critical Vol./Cap.(X): 0.918
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	1	0	0	0	0	1
Volume Module:												
Base Vol:	132	44	1275	19	99	0	0	17	105	237	16	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	44	1275	19	99	0	0	17	105	237	16	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	132	44	1275	19	99	0	0	17	105	237	16	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	132	44	1275	19	99	0	0	17	105	237	16	7
RTOR Reduct:	0	0	237	0	0	0	0	0	0	0	0	0
RTOR Vol:	132	44	1038	19	99	0	0	17	105	237	16	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	132	44	1038	19	99	0	0	17	105	237	16	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.75	0.25	1.00	0.16	0.84	0.00	0.00	0.14	0.86	1.00	0.70	0.30
Final Sat.:	1238	413	1650	266	1384	0	0	230	1420	1650	1148	502
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.63	0.07	0.07	0.00	0.00	0.07	0.07	0.14	0.01	0.01
Crit Volume:			1038		118			122		237		
Crit Moves:			****		****			****		****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1190 Willow Pass Rd & SR-4 WB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.491
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 45 Level Of Service: A

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	0	0	0	2	0	1	0	1
Volume Module:												
Base Vol:	212	1368	0	0	181	254	0	0	0	287	4	106
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	212	1368	0	0	181	254	0	0	0	287	4	106
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	212	1368	0	0	181	254	0	0	0	287	4	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	212	1368	0	0	181	254	0	0	0	287	4	106
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	212	1368	0	0	181	254	0	0	0	287	4	106
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	212	1368	0	0	181	254	0	0	0	287	4	106
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.97	0.03	1.00
Final Sat.:	1720	3440	0	0	3440	1720	0	0	0	3084	47	1720
Capacity Analysis Module:												
Vol/Sat:	0.12	0.40	0.00	0.00	0.05	0.15	0.00	0.00	0.00	0.09	0.08	0.06
Crit Volume:		684		0				0		146		
Crit Moves:		****		****						****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1200 Willow Pass Rd & SR-4 EB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.786
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 87 Level Of Service: C

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	1	0	2 0 0	0	1	0 0 1	0	0	0 0 0
Volume Module:												
Base Vol:	0	651	780	91	541	0	927	8	434	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	651	780	91	541	0	927	8	434	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	651	780	91	541	0	927	8	434	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	651	780	91	541	0	927	8	434	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	651	780	91	541	0	927	8	434	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	651	780	91	541	0	927	8	434	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.99	0.01	1.00	0.00	0.00	0.00
Final Sat.:	0	3440	1720	1720	3440	0	1705	15	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.19	0.45	0.05	0.16	0.00	0.54	0.54	0.25	0.00	0.00	0.00
Crit Volume:		326		91				935			0	
Crit Moves:		****		****				****				

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1210 Willow Pass Rd & Avila Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.072
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Willow Pass Rd						Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1 1 0	1	0	2 0 0	0	0	0 0 0	1	0	0 0 1
Volume Module:												
Base Vol:	0	1040	854	520	510	0	0	0	0	376	0	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1040	854	520	510	0	0	0	0	376	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1040	854	520	510	0	0	0	0	376	0	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1040	854	520	510	0	0	0	0	376	0	44
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	44
RTOR Vol:	0	1040	854	520	510	0	0	0	0	376	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1040	854	520	510	0	0	0	0	376	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.10	0.90	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	1889	1551	1720	3440	0	0	0	0	1720	0	1720
Capacity Analysis Module:												
Vol/Sat:	0.00	0.55	0.55	0.30	0.15	0.00	0.00	0.00	0.00	0.22	0.00	0.00
Crit Volume:		947		520				0		376		
Crit Moves:		****		****						****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	0.509
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 0	0	0 3	1 0	2	0 0	0 1	0	1 0	0 1
Volume Module:												
Base Vol:	125	928	0	0	620	98	727	0	367	47	58	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	125	928	0	0	620	98	727	0	367	47	58	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	125	928	0	0	620	98	727	0	367	47	58	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	125	928	0	0	620	98	727	0	367	47	58	136
RTOR Reduct:	0	0	0	0	0	0	0	0	125	0	0	0
RTOR Vol:	125	928	0	0	620	98	727	0	242	47	58	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	125	928	0	0	620	98	727	0	242	47	58	136
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.45	0.55	2.00	0.00	1.00	0.45	0.55	1.00
Final Sat.:	1650	4950	0	0	5699	901	3000	0	1650	739	911	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.19	0.00	0.00	0.11	0.11	0.24	0.00	0.15	0.06	0.06	0.08
Crit Volume:	125					180	364					136
Crit Moves:	****					****	****					****

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	1.005
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 0	0	0 2	0 0	2	0 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	923	0	0	432	0	909	0	1421	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	923	0	0	432	0	909	0	1421	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	923	0	0	432	0	909	0	1421	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	923	0	0	432	0	909	0	1421	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	923	0	0	432	0	909	0	1421	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	923	0	0	432	0	909	0	1421	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	3127	0	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.18	0.00	0.00	0.13	0.00	0.29	0.00	0.83	0.00	0.00	0.00
Crit Volume:		308		0					1421		0	
Crit Moves:		****		****					****			

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.716
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	80	Level Of Service:	C

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	7	142	148	736	232	71	294	1254	3	75	368	736
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	142	148	736	232	71	294	1254	3	75	368	736
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	142	148	736	232	71	294	1254	3	75	368	736
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	142	148	736	232	71	294	1254	3	75	368	736
RTOR Reduct:	0	0	75	0	0	0	0	0	0	0	0	405
RTOR Vol:	7	142	73	736	232	71	294	1254	3	75	368	331
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	142	73	736	232	71	294	1254	3	75	368	331
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.53	0.47	1.00	1.99	0.01	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	2527	773	1650	3292	8	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.04	0.25	0.09	0.09	0.18	0.38	0.38	0.05	0.11	0.20
Crit Volume:			73	368					629	75		
Crit Moves:			****	****					****	****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1250 Bailey Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.802
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	94	Level Of Service:	D

Street Name:	Bailey Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 0	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	372	33	551	18	23	19	17	1241	225	176	416	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	372	33	551	18	23	19	17	1241	225	176	416	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	372	33	551	18	23	19	17	1241	225	176	416	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	372	33	551	18	23	19	17	1241	225	176	416	14
RTOR Reduct:	0	0	176	0	0	0	0	0	0	0	0	0
RTOR Vol:	372	33	375	18	23	19	17	1241	225	176	416	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	372	33	375	18	23	19	17	1241	225	176	416	14
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.55	0.45	1.00	1.69	0.31	1.00	1.93	0.07
Final Sat.:	1650	1650	1650	1650	904	746	1650	2794	506	1650	3193	107
Capacity Analysis Module:												
Vol/Sat:	0.23	0.02	0.23	0.01	0.03	0.03	0.01	0.44	0.44	0.11	0.13	0.13
Crit Volume:	372					42		733		176		
Crit Moves:	****					****		****		****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec): 100 Critical Vol./Cap.(X): 1.355
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Ovl			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.0	0 1.0	2.0	0 2.0	0 1.0	0	1 1.0	0 1.0	0	0 0.0	0 1.0
Volume Module:												
Base Vol:	0	894	92	85	830	296	254	254	995	0	0	794
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	894	92	85	830	296	254	254	995	0	0	794
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	894	92	85	830	296	254	254	995	0	0	794
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	894	92	85	830	296	254	254	995	0	0	794
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	47
RTOR Vol:	0	894	92	85	830	296	254	254	995	0	0	747
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	894	92	85	830	296	254	254	995	0	0	747
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	3000	3300	1650	1650	1650	1650	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.06	0.03	0.25	0.18	0.15	0.15	0.60	0.00	0.00	0.45
Crit Volume:		447		43					995			747
Crit Moves:		****		****					****			****

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.976
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2.0	0 1.0	1	0 2.0	0 1.0	1	0 1.0	1 0	1	0 2.0	0 1.0
Volume Module:												
Base Vol:	111	665	161	436	950	286	222	1104	225	177	593	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	111	665	161	436	950	286	222	1104	225	177	593	196
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	111	665	161	436	950	286	222	1104	225	177	593	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	665	161	436	950	286	222	1104	225	177	593	196
RTOR Reduct:	0	0	161	0	0	222	0	0	0	0	0	196
RTOR Vol:	111	665	0	436	950	64	222	1104	225	177	593	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	665	0	436	950	64	222	1104	225	177	593	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.66	0.34	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	2741	559	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.20	0.00	0.26	0.29	0.04	0.13	0.40	0.40	0.11	0.18	0.00
Crit Volume:		333		436					665	177		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Future No Project - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1280 Kirker Pass Rd & James Donlon Blvd [Future extension of James

Cycle (sec): 100 Critical Vol./Cap.(X): 0.953
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Kirker Pass Rd						James Donlon Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.00	0 1.00	2	0 2.00	0 0.00	0	0 0.00	0 0.00	1	0 0.00	0 1.00
Volume Module:												
Base Vol:	0	1305	1226	219	464	0	0	0	0	866	0	299
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1305	1226	219	464	0	0	0	0	866	0	299
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1305	1226	219	464	0	0	0	0	866	0	299
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1305	1226	219	464	0	0	0	0	866	0	299
RTOR Reduct:	0	0	866	0	0	0	0	0	0	0	0	120
RTOR Vol:	0	1305	360	219	464	0	0	0	0	866	0	179
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1305	360	219	464	0	0	0	0	866	0	179
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3440	1720	3127	3440	0	0	0	0	1720	0	1720
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.21	0.07	0.13	0.00	0.00	0.00	0.00	0.50	0.00	0.10
Crit Volume:		653		109				0		866		
Crit Moves:		****		****						****		

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alt 1 - AM peak hour

Scenario Report

Scenario:	Alt1AM
Command:	Alt1AM
Volume:	2030AreaPlanAM
Geometry:	CV
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.018
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	2 0	1 1	0	1 0	0 1	0	2 0	0 1	1
Volume Module:												
Base Vol:	10	1048	108	1861	867	28	76	12	28	224	3	1252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1048	108	1861	867	28	76	12	28	224	3	1252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1048	108	1861	867	28	76	12	28	224	3	1252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1048	108	1861	867	28	76	12	28	224	3	1252
RTOR Reduct:	0	0	108	0	0	0	0	0	0	0	0	1024
RTOR Vol:	10	1048	0	1861	867	28	76	12	28	224	3	228
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1048	0	1861	867	28	76	12	28	224	3	228
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91
Lanes:	1.00	2.00	1.00	2.00	1.94	0.06	1.00	0.30	0.70	2.00	0.03	1.97
Final Sat.:	1720	3440	1720	3127	3332	108	1720	516	1204	3127	45	3086
Capacity Analysis Module:												
Vol/Sat:	0.01	0.30	0.00	0.60	0.26	0.26	0.04	0.02	0.02	0.07	0.07	0.07
Crit Volume:		524			931			76				116
Crit Moves:	****			****			****					****

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1020 Port Chicago Hwy & Olivera Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.947
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Port Chicago Hwy						Olivera Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 1	1	0	1 0 1	1	0	0 1 0
Volume Module:												
Base Vol:	60	490	21	188	737	134	374	128	116	35	240	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	490	21	188	737	134	374	128	116	35	240	152
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	490	21	188	737	134	374	128	116	35	240	152
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	490	21	188	737	134	374	128	116	35	240	152
RTOR Reduct:	0	0	0	0	0	134	0	0	60	0	0	0
RTOR Vol:	60	490	21	188	737	0	374	128	56	35	240	152
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	490	21	188	737	0	374	128	56	35	240	152
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.96	0.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.61	0.39
Final Sat.:	1650	1582	68	1650	1650	1650	1650	1650	1650	1650	1010	640
Capacity Analysis Module:												
Vol/Sat:	0.04	0.31	0.31	0.11	0.45	0.00	0.23	0.08	0.03	0.02	0.24	0.24
Crit Volume:	60				737		374				392	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1030 Farm Bureau Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.600
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	B

Street Name:	Farm Bureau Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0 1	1	0	1 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module:												
Base Vol:	139	293	182	193	242	18	18	556	63	195	988	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	139	293	182	193	242	18	18	556	63	195	988	157
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	139	293	182	193	242	18	18	556	63	195	988	157
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	293	182	193	242	18	18	556	63	195	988	157
RTOR Reduct:	0	0	182	0	0	18	0	0	0	0	0	157
RTOR Vol:	139	293	0	193	242	0	18	556	63	195	988	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	293	0	193	242	0	18	556	63	195	988	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.80	0.20	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	2964	336	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.18	0.00	0.12	0.15	0.00	0.01	0.19	0.19	0.12	0.30	0.00
Crit Volume:		293		193				310		195		
Crit Moves:		****		****				****		****		

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1040 SR 242-Commerce Av & Concord Av

Cycle (sec): 100 Critical Vol./Cap.(X): 0.647
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 65 Level Of Service: B

Street Name:	SR242 SB-Commerce Av						Concord Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	2	0 0	1 1	0	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	19	28	78	1102	262	821	0	716	58	176	846	303
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	28	78	1102	262	821	0	716	58	176	846	303
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	19	28	78	1102	262	821	0	716	58	176	846	303
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	19	28	78	1102	262	821	0	716	58	176	846	303
RTOR Reduct:	0	0	78	0	0	0	0	0	0	0	0	0
RTOR Vol:	19	28	0	1102	262	821	0	716	58	176	846	303
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	19	28	0	1102	262	821	0	716	58	176	846	303
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	2.00	0.48	1.52	0.00	2.78	0.22	1.00	3.00	1.00
Final Sat.:	1650	1650	1650	3000	798	2274	0	4579	371	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.00	0.37	0.33	0.36	0.00	0.16	0.16	0.11	0.17	0.18
Crit Volume:		28		551					258	176		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1050 West St & Concord Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.718
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 81 Level Of Service: C

Street Name:	West St						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	206	5	144	37	210	164	4	1099	180	130	1455	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	206	5	144	37	210	164	4	1099	180	130	1455	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	206	5	144	37	210	164	4	1099	180	130	1455	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	206	5	144	37	210	164	4	1099	180	130	1455	0
RTOR Reduct:	0	0	0	0	0	4	0	0	0	0	0	0
RTOR Vol:	206	5	144	37	210	160	4	1099	180	130	1455	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	206	5	144	37	210	160	4	1099	180	130	1455	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.03	0.97	1.00	1.00	1.00	1.00	1.72	0.28	1.00	2.00	1.00
Final Sat.:	1650	55	1595	1650	1650	1650	1650	2836	464	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.09	0.09	0.02	0.13	0.10	0.00	0.39	0.39	0.08	0.44	0.00
Crit Volume:	206				210				640	130		
Crit Moves:	****				****				****	****		

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1060 Denkinger Rd & Concord Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.579
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 44 Level Of Service: A

Street Name:	Denkinger Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	155	6	42	213	191	213	18	693	177	169	1256	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	155	6	42	213	191	213	18	693	177	169	1256	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	6	42	213	191	213	18	693	177	169	1256	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	6	42	213	191	213	18	693	177	169	1256	53
RTOR Reduct:	0	0	0	0	0	18	0	0	155	0	0	53
RTOR Vol:	155	6	42	213	191	195	18	693	22	169	1256	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	6	42	213	191	195	18	693	22	169	1256	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.12	0.88	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1720	215	1505	1720	1720	1720	1720	3440	1720	1720	3440	1720
Capacity Analysis Module:												
Vol/Sat:	0.09	0.03	0.03	0.12	0.11	0.11	0.01	0.20	0.01	0.10	0.37	0.00
Crit Volume:	155					195	18				628	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1070 Bailey Rd & Concord Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.722
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 82 Level Of Service: C

Street Name:	Bailey Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	48	104	15	95	448	345	90	691	149	117	1210	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	104	15	95	448	345	90	691	149	117	1210	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	48	104	15	95	448	345	90	691	149	117	1210	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	104	15	95	448	345	90	691	149	117	1210	54
RTOR Reduct:	0	0	0	0	0	90	0	0	48	0	0	54
RTOR Vol:	48	104	15	95	448	255	90	691	101	117	1210	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	48	104	15	95	448	255	90	691	101	117	1210	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1442	208	1650	1650	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.07	0.06	0.27	0.15	0.05	0.21	0.06	0.07	0.37	0.00
Crit Volume:	48				448		90				605	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1080 N Main St & Sunnyvale Av

Cycle (sec): 100 Critical Vol./Cap.(X): 0.996
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	N Main St						Sunnyvale Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	2	0 0	0 1
Volume Module:												
Base Vol:	41	269	1149	320	900	37	51	50	73	905	0	84
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	41	269	1149	320	900	37	51	50	73	905	0	84
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	41	269	1149	320	900	37	51	50	73	905	0	84
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	269	1149	320	900	37	51	50	73	905	0	84
RTOR Reduct:	0	0	498	0	0	0	0	0	0	0	0	84
RTOR Vol:	41	269	651	320	900	37	51	50	73	905	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	41	269	651	320	900	37	51	50	73	905	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.92	0.08	0.29	0.29	0.42	2.00	0.00	1.00
Final Sat.:	1650	3300	1650	1650	3170	130	484	474	692	3000	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.39	0.19	0.28	0.28	0.11	0.11	0.11	0.30	0.00	0.00
Crit Volume:			651	320				174		453		
Crit Moves:			****	****				****		****		

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1090 N Main St & Geary Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.840
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 142 Level Of Service: D

Street Name:	N Main St						Geary Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 2	0 1	1	0 1	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	84	180	279	675	946	148	49	606	159	523	304	1151
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	180	279	675	946	148	49	606	159	523	304	1151
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	180	279	675	946	148	49	606	159	523	304	1151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	180	279	675	946	148	49	606	159	523	304	1151
RTOR Reduct:	0	0	279	0	0	49	0	0	0	0	0	371
RTOR Vol:	84	180	0	675	946	99	49	606	159	523	304	780
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	84	180	0	675	946	99	49	606	159	523	304	780
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	1.58	0.42	2.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	2614	686	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.00	0.23	0.29	0.06	0.03	0.23	0.23	0.17	0.09	0.47
Crit Volume:	84				473		49					780
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1100 Buskirk Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.603
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	B

Street Name:	Buskirk Av						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	0	0 0	0 0	2	0 2	0 0	0	0 3	0 1
Volume Module:												
Base Vol:	258	446	891	0	0	0	347	1077	0	0	1766	512
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	258	446	891	0	0	0	347	1077	0	0	1766	512
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	258	446	891	0	0	0	347	1077	0	0	1766	512
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	446	891	0	0	0	347	1077	0	0	1766	512
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	258	446	891	0	0	0	347	1077	0	0	1766	512
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	258	446	891	0	0	0	347	1077	0	0	1766	512
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	3.00	1.00
Final Sat.:	1720	3440	1720	0	0	0	3127	3440	0	0	5160	1720
Capacity Analysis Module:												
Vol/Sat:	0.15	0.13	0.52	0.00	0.00	0.00	0.11	0.31	0.00	0.00	0.34	0.30
Crit Volume:	258				0		174				589	
Crit Moves:	****						****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1110 Oak Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.600
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	A

Street Name:	Oak Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	2	0 3	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	282	257	79	135	316	228	156	1504	285	403	1772	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	282	257	79	135	316	228	156	1504	285	403	1772	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	282	257	79	135	316	228	156	1504	285	403	1772	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	282	257	79	135	316	228	156	1504	285	403	1772	65
RTOR Reduct:	0	0	79	0	0	86	0	0	0	0	0	65
RTOR Vol:	282	257	0	135	316	142	156	1504	285	403	1772	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	282	257	0	135	316	142	156	1504	285	403	1772	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	2.00	3.36	0.64	2.00	3.00	1.00
Final Sat.:	3000	3300	1650	1650	3300	1650	3000	5549	1051	3000	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.08	0.00	0.08	0.10	0.09	0.05	0.27	0.27	0.13	0.36	0.00
Crit Volume:	141				158		78				591	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1120 Bancroft Rd-Walnut Av & Treat Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.855
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 157 Level Of Service: D

Street Name:	Bancroft Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	AddLane			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	670	260	199	190	577	228	55	820	536	217	1906	101
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	670	260	199	190	577	228	55	820	536	217	1906	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	670	260	199	190	577	228	55	820	536	217	1906	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	670	260	199	190	577	228	55	820	536	217	1906	101
RTOR Reduct:	0	0	199	0	0	55	0	0	0	0	0	0
RTOR Vol:	670	260	0	190	577	173	55	820	536	217	1906	101
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	670	260	0	190	577	173	55	820	536	217	1906	101
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.85	0.15
Final Sat.:	3000	3300	1650	1650	3300	1650	1650	3300	1650	1650	4701	249
Capacity Analysis Module:												
Vol/Sat:	0.22	0.08	0.00	0.12	0.17	0.10	0.03	0.25	0.32	0.13	0.41	0.41
Crit Volume:	335				289				536	217		
Crit Moves:	****				****				****	****		

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1130 Oak Grove Rd & Treat Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.973
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Treat Bl						Oak Grove Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	2	0 2	0 1	2	0 2	0 1
Volume Module:												
Base Vol:	370	709	132	123	739	113	134	462	382	484	1756	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	370	709	132	123	739	113	134	462	382	484	1756	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	370	709	132	123	739	113	134	462	382	484	1756	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	370	709	132	123	739	113	134	462	382	484	1756	161
RTOR Reduct:	0	0	0	0	0	0	0	0	370	0	0	123
RTOR Vol:	370	709	132	123	739	113	134	462	12	484	1756	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	370	709	132	123	739	113	134	462	12	484	1756	38
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.53	0.47	1.00	2.60	0.40	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1650	4173	777	1650	4293	657	3000	3300	1650	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.22	0.17	0.17	0.07	0.17	0.17	0.04	0.14	0.01	0.16	0.53	0.02
Crit Volume:	370					284	67				878	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1140 I-680 NB Off Ramp & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.001
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	NB I-680 Off Ramp						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			AddLane			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 2	1	1 0	0 1	1	0 1	0 1	1	0 2	1 0
Volume Module:												
Base Vol:	409	280	1871	50	45	138	11	86	113	144	1705	212
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	409	280	1871	50	45	138	11	86	113	144	1705	212
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	409	280	1871	50	45	138	11	86	113	144	1705	212
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	409	280	1871	50	45	138	11	86	113	144	1705	212
RTOR Reduct:	0	0	144	0	0	11	0	0	113	0	0	0
RTOR Vol:	409	280	1727	50	45	127	11	86	0	144	1705	212
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	409	280	1727	50	45	127	11	86	0	144	1705	212
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	2.00	1.05	0.95	1.00	1.00	1.00	1.00	1.00	2.67	0.33
Final Sat.:	1650	1650	3000	1579	1563	1650	1650	1650	1650	1650	4403	547
Capacity Analysis Module:												
Vol/Sat:	0.25	0.17	0.58	0.03	0.03	0.08	0.01	0.05	0.00	0.09	0.39	0.39
Crit Volume:			864	48			11					639
Crit Moves:			****	****			****					****

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1150 Bancroft Rd-Walnut Av & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.813
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 122 Level Of Service: D

Street Name:	Bancroft Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1 0	1 0	1	1 1	0 1	2	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	467	240	70	709	405	470	262	1326	181	93	1586	241
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	467	240	70	709	405	470	262	1326	181	93	1586	241
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	467	240	70	709	405	470	262	1326	181	93	1586	241
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	467	240	70	709	405	470	262	1326	181	93	1586	241
RTOR Reduct:	0	0	0	0	0	144	0	0	0	0	0	241
RTOR Vol:	467	240	70	709	405	326	262	1326	181	93	1586	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	467	240	70	709	405	326	262	1326	181	93	1586	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.81	0.92	0.27	1.91	1.09	1.00	2.00	2.64	0.36	1.00	3.00	1.00
Final Sat.:	2707	1527	445	2864	1800	1650	3000	4355	595	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.17	0.16	0.16	0.25	0.23	0.20	0.09	0.30	0.30	0.06	0.32	0.00
Crit Volume:			260	371			131				529	
Crit Moves:			****	****			****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1160 Oak Grove Rd & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.939
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Oak Grove Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 3	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	174	589	471	116	575	257	310	670	76	284	1066	1034
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	174	589	471	116	575	257	310	670	76	284	1066	1034
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	174	589	471	116	575	257	310	670	76	284	1066	1034
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	174	589	471	116	575	257	310	670	76	284	1066	1034
RTOR Reduct:	0	0	284	0	0	0	0	0	76	0	0	116
RTOR Vol:	174	589	187	116	575	257	310	670	0	284	1066	918
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	174	589	187	116	575	257	310	670	0	284	1066	918
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	3000	4950	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.18	0.11	0.07	0.17	0.16	0.10	0.14	0.00	0.17	0.32	0.56
Crit Volume:	174				288		155					918
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1170 Ayers Rd & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.739
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	87	Level Of Service:	C

Street Name:	Ayers Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	2	0 3	0 1	1	0 3	0 1
Volume Module:												
Base Vol:	20	26	0	142	70	341	121	909	64	4	2574	79
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	26	0	142	70	341	121	909	64	4	2574	79
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	26	0	142	70	341	121	909	64	4	2574	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	26	0	142	70	341	121	909	64	4	2574	79
RTOR Reduct:	0	0	0	0	0	67	0	0	20	0	0	79
RTOR Vol:	20	26	0	142	70	274	121	909	44	4	2574	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	26	0	142	70	274	121	909	44	4	2574	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	1.00	1.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1650	1650	0	1650	1650	1650	3000	4950	1650	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.00	0.09	0.04	0.17	0.04	0.18	0.03	0.00	0.52	0.00
Crit Volume:	20					274	61				858	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec):	100	Critical Vol./Cap.(X):	1.912
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	1	0	0	0	0	1
Volume Module:												
Base Vol:	644	87	704	9	61	0	0	253	441	1660	1018	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	644	87	704	9	61	0	0	253	441	1660	1018	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	644	87	704	9	61	0	0	253	441	1660	1018	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	644	87	704	9	61	0	0	253	441	1660	1018	25
RTOR Reduct:	0	0	704	0	0	0	0	0	0	0	0	0
RTOR Vol:	644	87	0	9	61	0	0	253	441	1660	1018	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	644	87	0	9	61	0	0	253	441	1660	1018	25
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.88	0.12	1.00	0.13	0.87	0.00	0.00	0.36	0.64	1.00	0.98	0.02
Final Sat.:	1454	196	1650	212	1438	0	0	602	1048	1650	1610	40
Capacity Analysis Module:												
Vol/Sat:	0.44	0.44	0.00	0.04	0.04	0.00	0.00	0.42	0.42	1.01	0.63	0.63
Crit Volume:		731			70				694	1660		
Crit Moves:		****			****				****	****		

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1190 Willow Pass Rd & SR-4 WB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	1.191
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	0	0	0	2	0	1	0	1
Volume Module:												
Base Vol:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.93	0.07	1.00
Final Sat.:	1720	3440	0	0	3440	1720	0	0	0	3015	123	1720
Capacity Analysis Module:												
Vol/Sat:	0.18	0.07	0.00	0.00	0.31	0.64	0.00	0.00	0.00	0.47	0.42	0.70
Crit Volume:	305				537			0				1207
Crit Moves:	****				****							****

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1200 Willow Pass Rd & SR-4 EB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.850
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 124 Level Of Service: D

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	1	0	2 0 0	0	1 0	0 1	0	0	0 0 0
Volume Module:												
Base Vol:	0	433	336	612	1891	0	146	28	516	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	433	336	612	1891	0	146	28	516	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	433	336	612	1891	0	146	28	516	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	433	336	612	1891	0	146	28	516	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	433	336	612	1891	0	146	28	516	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	433	336	612	1891	0	146	28	516	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.84	0.16	1.00	0.00	0.00	0.00
Final Sat.:	0	3440	1720	1720	3440	0	1443	277	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.13	0.20	0.36	0.55	0.00	0.10	0.10	0.30	0.00	0.00	0.00
Crit Volume:	0				945				516		0	
Crit Moves:	****				****				****			

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1210 Willow Pass Rd & Avila Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.347
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Willow Pass Rd						Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 1 0	1	0	2 0 1	1	0	1 0 1	1	0	1 0 1
Volume Module:												
Base Vol:	192	706	109	11	1773	781	77	144	21	98	1067	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	192	706	109	11	1773	781	77	144	21	98	1067	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	192	706	109	11	1773	781	77	144	21	98	1067	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	192	706	109	11	1773	781	77	144	21	98	1067	13
RTOR Reduct:	0	0	0	0	0	77	0	0	21	0	0	11
RTOR Vol:	192	706	109	11	1773	704	77	144	0	98	1067	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	192	706	109	11	1773	704	77	144	0	98	1067	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.73	0.27	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	2859	441	1650	3300	1650	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.25	0.25	0.01	0.54	0.43	0.05	0.09	0.00	0.06	0.65	0.00
Crit Volume:	192				886		77				1067	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	1.254
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	3	0	0	0	0	3	1	0	2	0	0	0	1	0	1	0	0	1
Volume Module:												
Base Vol:	879	669	0	0	2045	823	286	0	626	50	160	130
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	879	669	0	0	2045	823	286	0	626	50	160	130
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	879	669	0	0	2045	823	286	0	626	50	160	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	879	669	0	0	2045	823	286	0	626	50	160	130
RTOR Reduct:	0	0	0	0	0	0	0	0	626	0	0	0
RTOR Vol:	879	669	0	0	2045	823	286	0	0	50	160	130
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	879	669	0	0	2045	823	286	0	0	50	160	130
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.00	1.00	2.00	0.00	1.00	0.24	0.76	1.00
Final Sat.:	1650	4950	0	0	4950	1650	3000	0	1650	393	1257	1650
Capacity Analysis Module:												
Vol/Sat:	0.53	0.14	0.00	0.00	0.41	0.50	0.10	0.00	0.00	0.13	0.13	0.08
Crit Volume:	879					823	143				210	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	1.129
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	3	0	0	0	0	2	0	0	2	0	0	0	1	0	0	0	0	0
Volume Module:												
Base Vol:	0	3443	0	0	369	0	253	0	795	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3443	0	0	369	0	253	0	795	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3443	0	0	369	0	253	0	795	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3443	0	0	369	0	253	0	795	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	3443	0	0	369	0	253	0	795	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3443	0	0	369	0	253	0	795	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	3127	0	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.67	0.00	0.00	0.11	0.00	0.08	0.00	0.46	0.00	0.00	0.00
Crit Volume:		1148		0					795		0	
Crit Moves:		****		****					****			

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.886
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	D

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	22	484	216	656	302	394	67	480	18	211	1584	764
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	484	216	656	302	394	67	480	18	211	1584	764
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	484	216	656	302	394	67	480	18	211	1584	764
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	484	216	656	302	394	67	480	18	211	1584	764
RTOR Reduct:	0	0	211	0	0	0	0	0	0	0	0	361
RTOR Vol:	22	484	5	656	302	394	67	480	18	211	1584	403
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	484	5	656	302	394	67	480	18	211	1584	403
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.00	1.00	1.00	1.93	0.07	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	1650	1650	1650	3181	119	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.15	0.00	0.22	0.18	0.24	0.04	0.15	0.15	0.13	0.48	0.24
Crit Volume:		242		328			67				792	
Crit Moves:		****		****			****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1250 Bailey Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.775
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	83	Level Of Service:	C

Street Name:	Bailey Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 0	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	227	3	130	0	1	4	3	461	286	213	2085	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	227	3	130	0	1	4	3	461	286	213	2085	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	227	3	130	0	1	4	3	461	286	213	2085	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	227	3	130	0	1	4	3	461	286	213	2085	3
RTOR Reduct:	0	0	130	0	0	0	0	0	0	0	0	0
RTOR Vol:	227	3	0	0	1	4	3	461	286	213	2085	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	227	3	0	0	1	4	3	461	286	213	2085	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.20	0.80	1.00	1.23	0.77	1.00	1.99	0.01
Final Sat.:	1650	1650	1650	1650	330	1320	1650	2037	1263	1650	3295	5
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.23	0.13	0.63	0.63
Crit Volume:	227				5			3			1044	
Crit Moves:	****				****			****			****	

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.834
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 112 Level Of Service: D

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Ovl			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	2	0	2 0 1	0	1	1 0 1	0	0	0 0 1
Volume Module:												
Base Vol:	0	1033	158	144	627	331	650	141	594	0	0	210
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1033	158	144	627	331	650	141	594	0	0	210
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1033	158	144	627	331	650	141	594	0	0	210
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1033	158	144	627	331	650	141	594	0	0	210
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	79
RTOR Vol:	0	1033	158	144	627	331	650	141	594	0	0	131
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1033	158	144	627	331	650	141	594	0	0	131
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	3000	3300	1650	1650	1650	1650	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.10	0.05	0.19	0.20	0.39	0.09	0.36	0.00	0.00	0.08
Crit Volume:		517			72			650				131
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.856
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 159 Level Of Service: D

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 0 1	1	0	2 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module:												
Base Vol:	174	340	178	133	439	110	243	1482	227	165	438	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	174	340	178	133	439	110	243	1482	227	165	438	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	174	340	178	133	439	110	243	1482	227	165	438	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	174	340	178	133	439	110	243	1482	227	165	438	75
RTOR Reduct:	0	0	165	0	0	110	0	0	0	0	0	75
RTOR Vol:	174	340	13	133	439	0	243	1482	227	165	438	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	174	340	13	133	439	0	243	1482	227	165	438	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.73	0.27	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	2862	438	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.10	0.01	0.08	0.13	0.00	0.15	0.52	0.52	0.10	0.13	0.00
Crit Volume:	174				220			855		165		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Alt 1 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1280 Kirker Pass Rd & James Donlon Blvd [Future extension of James

Cycle (sec):	100	Critical Vol./Cap.(X):	1.155
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Kirker Pass Rd						James Donlon Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.0	0 1.0	2.0	0 2.0	0 0.0	0	0 0.0	0 0.0	1.0	0 0.0	0 1.0
Volume Module:												
Base Vol:	0	367	1100	297	1562	0	0	0	0	1206	0	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	367	1100	297	1562	0	0	0	0	1206	0	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	367	1100	297	1562	0	0	0	0	1206	0	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	367	1100	297	1562	0	0	0	0	1206	0	77
RTOR Reduct:	0	0	1100	0	0	0	0	0	0	0	0	77
RTOR Vol:	0	367	0	297	1562	0	0	0	0	1206	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	367	0	297	1562	0	0	0	0	1206	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3440	1720	3127	3440	0	0	0	0	1720	0	1720
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.00	0.09	0.45	0.00	0.00	0.00	0.00	0.70	0.00	0.00
Crit Volume:		184			781			0		1206		
Crit Moves:					****					****		

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alt1 PM peak hour

Scenario Report

Scenario:	Alt1PM
Command:	Al2PM
Volume:	2030AreaPlanPM
Geometry:	CV
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.121
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	2 0	1 1	0	1 0	0 1	0	2 0	0 1	1
Volume Module:												
Base Vol:	20	1074	123	1176	1082	78	76	6	12	95	11	1852
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	1074	123	1176	1082	78	76	6	12	95	11	1852
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	1074	123	1176	1082	78	76	6	12	95	11	1852
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	1074	123	1176	1082	78	76	6	12	95	11	1852
RTOR Reduct:	0	0	52	0	0	0	0	0	0	0	0	647
RTOR Vol:	20	1074	71	1176	1082	78	76	6	12	95	11	1205
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	1074	71	1176	1082	78	76	6	12	95	11	1205
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91
Lanes:	1.00	2.00	1.00	2.00	1.87	0.13	1.00	0.33	0.67	2.00	0.02	1.98
Final Sat.:	1720	3440	1720	3127	3209	231	1720	573	1147	3127	31	3099
Capacity Analysis Module:												
Vol/Sat:	0.01	0.31	0.04	0.38	0.34	0.34	0.04	0.01	0.01	0.03	0.35	0.39
Crit Volume:		537			588			76				608
Crit Moves:		****			****			****				****

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1020 Port Chicago Hwy & Olivera Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	151	Level Of Service:	D

Street Name:	Port Chicago Hwy						Olivera Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 1	1	0	1 0 1	1	0	0 1 0
Volume Module:												
Base Vol:	99	563	51	260	469	439	166	417	90	35	207	154
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	563	51	260	469	439	166	417	90	35	207	154
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	563	51	260	469	439	166	417	90	35	207	154
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	563	51	260	469	439	166	417	90	35	207	154
RTOR Reduct:	0	0	0	0	0	166	0	0	90	0	0	0
RTOR Vol:	99	563	51	260	469	273	166	417	0	35	207	154
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	563	51	260	469	273	166	417	0	35	207	154
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.92	0.08	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.57	0.43
Final Sat.:	1650	1513	137	1650	1650	1650	1650	1650	1650	1650	946	704
Capacity Analysis Module:												
Vol/Sat:	0.06	0.37	0.37	0.16	0.28	0.17	0.10	0.25	0.00	0.02	0.22	0.22
Crit Volume:		614			260			166			361	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1030 Farm Bureau Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.863
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	167	Level Of Service:	D

Street Name:	Farm Bureau Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0 1	1	0	1 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module:												
Base Vol:	82	265	240	245	376	28	30	1000	95	367	366	109
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	82	265	240	245	376	28	30	1000	95	367	366	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	82	265	240	245	376	28	30	1000	95	367	366	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82	265	240	245	376	28	30	1000	95	367	366	109
RTOR Reduct:	0	0	240	0	0	28	0	0	0	0	0	109
RTOR Vol:	82	265	0	245	376	0	30	1000	95	367	366	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	82	265	0	245	376	0	30	1000	95	367	366	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.83	0.17	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	3014	286	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.16	0.00	0.15	0.23	0.00	0.02	0.33	0.33	0.22	0.11	0.00
Crit Volume:		265			245			548			367	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1040 SR 242-Commerce Av & Concord Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.838
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	140	Level Of Service:	D

Street Name:	SR242 SB-Commerce Av						Concord Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	2	0 0	1 1	0	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	34	88	280	952	97	443	0	1681	54	175	795	356
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	88	280	952	97	443	0	1681	54	175	795	356
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	34	88	280	952	97	443	0	1681	54	175	795	356
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	88	280	952	97	443	0	1681	54	175	795	356
RTOR Reduct:	0	0	175	0	0	0	0	0	0	0	0	0
RTOR Vol:	34	88	105	952	97	443	0	1681	54	175	795	356
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	34	88	105	952	97	443	0	1681	54	175	795	356
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	2.00	0.36	1.64	0.00	2.91	0.09	1.00	3.00	1.00
Final Sat.:	1650	1650	1650	3000	593	2461	0	4796	154	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.06	0.32	0.16	0.18	0.00	0.35	0.35	0.11	0.16	0.22
Crit Volume:			105	476					578	175		
Crit Moves:			****	****					****	****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1050 West St & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.637
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	B

Street Name:	West St						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	104	25	34	0	8	11	8	1711	110	28	1130	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	25	34	0	8	11	8	1711	110	28	1130	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	25	34	0	8	11	8	1711	110	28	1130	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	25	34	0	8	11	8	1711	110	28	1130	0
RTOR Reduct:	0	0	0	0	0	8	0	0	0	0	0	0
RTOR Vol:	104	25	34	0	8	3	8	1711	110	28	1130	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	25	34	0	8	3	8	1711	110	28	1130	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.42	0.58	1.00	1.00	1.00	1.00	1.88	0.12	1.00	2.00	1.00
Final Sat.:	1650	699	951	1650	1650	1650	1650	3101	199	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.04	0.04	0.00	0.00	0.00	0.00	0.55	0.55	0.02	0.34	0.00
Crit Volume:	104				8				911	28		
Crit Moves:	****				****				****	****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1060 Denkinger Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.624
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	B

Street Name:	Denkinger Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	252	94	136	53	52	64	127	1409	162	65	840	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	252	94	136	53	52	64	127	1409	162	65	840	128
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	252	94	136	53	52	64	127	1409	162	65	840	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	252	94	136	53	52	64	127	1409	162	65	840	128
RTOR Reduct:	0	0	0	0	0	64	0	0	162	0	0	53
RTOR Vol:	252	94	136	53	52	0	127	1409	0	65	840	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	252	94	136	53	52	0	127	1409	0	65	840	75
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.41	0.59	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1720	703	1017	1720	1720	1720	1720	3440	1720	1720	3440	1720
Capacity Analysis Module:												
Vol/Sat:	0.15	0.13	0.13	0.03	0.03	0.00	0.07	0.41	0.00	0.04	0.24	0.04
Crit Volume:	252				52			705		65		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1070 Bailey Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.585
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	A

Street Name:	Bailey Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	70	217	40	63	131	91	162	1237	96	26	842	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	217	40	63	131	91	162	1237	96	26	842	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	217	40	63	131	91	162	1237	96	26	842	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	217	40	63	131	91	162	1237	96	26	842	65
RTOR Reduct:	0	0	0	0	0	91	0	0	70	0	0	63
RTOR Vol:	70	217	40	63	131	0	162	1237	26	26	842	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	217	40	63	131	0	162	1237	26	26	842	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1393	257	1650	1650	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.16	0.16	0.04	0.08	0.00	0.10	0.37	0.02	0.02	0.26	0.00
Crit Volume:		257			63			619		26		
Crit Moves:		****			****			****		****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1080 N Main St & Sunnyvale Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.856
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	159	Level Of Service:	D

Street Name:	N Main St									Sunnyvale Av								
Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Split Phase			Split Phase								
Rights:	Include			Include			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	1	0	2	0	1	1	0	1	1	0	0	0	1!	0	0	2	0	0	0	1
Volume Module:																				
Base Vol:	89	620	786	348	711	112	110	38	58	998	0	332								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	89	620	786	348	711	112	110	38	58	998	0	332								
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Volume:	89	620	786	348	711	112	110	38	58	998	0	332								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	89	620	786	348	711	112	110	38	58	998	0	332								
RTOR Reduct:	0	0	549	0	0	0	0	0	0	0	0	332								
RTOR Vol:	89	620	237	348	711	112	110	38	58	998	0	0								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
FinalVolume:	89	620	237	348	711	112	110	38	58	998	0	0								
Saturation Flow Module:																				
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650								
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00								
Lanes:	1.00	2.00	1.00	1.00	1.73	0.27	0.54	0.18	0.28	2.00	0.00	1.00								
Final Sat.:	1650	3300	1650	1650	2851	449	881	304	465	3000	0	1650								
Capacity Analysis Module:																				
Vol/Sat:	0.05	0.19	0.14	0.21	0.25	0.25	0.12	0.12	0.12	0.33	0.00	0.00								
Crit Volume:		310		348				206		499										
Crit Moves:		****		****				****		****										

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1090 N Main St & Geary Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.020
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	N Main St									Geary Rd								
Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Include			Include			AddLane								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	1	0	2	0	1	2	0	2	0	1	1	0	1	1	0	2	0	2	0	1
Volume Module:																				
Base Vol:	340	433	493	831	626	240	68	577	350	993	398	894								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	340	433	493	831	626	240	68	577	350	993	398	894								
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Volume:	340	433	493	831	626	240	68	577	350	993	398	894								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	340	433	493	831	626	240	68	577	350	993	398	894								
RTOR Reduct:	0	0	493	0	0	68	0	0	0	0	0	457								
RTOR Vol:	340	433	0	831	626	172	68	577	350	993	398	437								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
FinalVolume:	340	433	0	831	626	172	68	577	350	993	398	437								
Saturation Flow Module:																				
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650								
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00								
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	1.24	0.76	2.00	2.00	1.00								
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	2054	1246	3000	3300	1650								
Capacity Analysis Module:																				
Vol/Sat:	0.21	0.13	0.00	0.28	0.19	0.10	0.04	0.28	0.28	0.33	0.12	0.26								
Crit Volume:		217		416					464	497										
Crit Moves:		****		****					****	****										

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1100 Buskirk Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.676
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	70	Level Of Service:	B

Street Name:	Buskirk Av						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	0	0 0	0 0	2	0 2	0 0	0	0 3	0 1
Volume Module:												
Base Vol:	205	279	825	0	0	0	510	1233	0	0	2034	571
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	279	825	0	0	0	510	1233	0	0	2034	571
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	205	279	825	0	0	0	510	1233	0	0	2034	571
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	205	279	825	0	0	0	510	1233	0	0	2034	571
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	205	279	825	0	0	0	510	1233	0	0	2034	571
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	205	279	825	0	0	0	510	1233	0	0	2034	571
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	3.00	1.00
Final Sat.:	1720	3440	1720	0	0	0	3127	3440	0	0	5160	1720
Capacity Analysis Module:												
Vol/Sat:	0.12	0.08	0.48	0.00	0.00	0.00	0.16	0.36	0.00	0.00	0.39	0.33
Crit Volume:	205				0		255				678	
Crit Moves:	****						****				****	

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1110 Oak Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.802
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	115	Level Of Service:	D

Street Name:	Oak Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	2	0 3	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	355	331	179	146	424	484	171	1729	256	443	1933	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	355	331	179	146	424	484	171	1729	256	443	1933	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	355	331	179	146	424	484	171	1729	256	443	1933	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	355	331	179	146	424	484	171	1729	256	443	1933	77
RTOR Reduct:	0	0	179	0	0	94	0	0	0	0	0	77
RTOR Vol:	355	331	0	146	424	390	171	1729	256	443	1933	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	355	331	0	146	424	390	171	1729	256	443	1933	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	2.00	3.48	0.52	2.00	3.00	1.00
Final Sat.:	3000	3300	1650	1650	3300	1650	3000	5749	851	3000	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.10	0.00	0.09	0.13	0.24	0.06	0.30	0.30	0.15	0.39	0.00
Crit Volume:	178					390	86				644	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1120 Bancroft Rd-Walnut Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.974
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Bancroft Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	AddLane			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	861	499	173	183	431	253	212	1719	605	143	1233	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	861	499	173	183	431	253	212	1719	605	143	1233	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	861	499	173	183	431	253	212	1719	605	143	1233	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	861	499	173	183	431	253	212	1719	605	143	1233	121
RTOR Reduct:	0	0	143	0	0	212	0	0	0	0	0	0
RTOR Vol:	861	499	30	183	431	41	212	1719	605	143	1233	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	861	499	30	183	431	41	212	1719	605	143	1233	121
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.22	0.78	1.00	2.73	0.27
Final Sat.:	3000	3300	1650	1650	3300	1650	1650	3661	1289	1650	4508	442
Capacity Analysis Module:												
Vol/Sat:	0.29	0.15	0.02	0.11	0.13	0.02	0.13	0.47	0.47	0.09	0.27	0.27
Crit Volume:	431			215					775	143		
Crit Moves:	****			****					****	****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1130 Oak Grove Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.841
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	143	Level Of Service:	D

Street Name:	Treat Bl						Oak Grove Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	2	0 2	0 1	2	0 2	0 1
Volume Module:												
Base Vol:	342	533	260	262	485	147	215	1505	268	150	932	199
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	342	533	260	262	485	147	215	1505	268	150	932	199
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	342	533	260	262	485	147	215	1505	268	150	932	199
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	342	533	260	262	485	147	215	1505	268	150	932	199
RTOR Reduct:	0	0	0	0	0	0	0	0	268	0	0	199
RTOR Vol:	342	533	260	262	485	147	215	1505	0	150	932	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	342	533	260	262	485	147	215	1505	0	150	932	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.02	0.98	1.00	2.30	0.70	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1650	3327	1623	1650	3799	1151	3000	3300	1650	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.21	0.16	0.16	0.16	0.13	0.13	0.07	0.46	0.00	0.05	0.28	0.00
Crit Volume:	342				211			753		75		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1140 I-680 NB Off Ramp & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.002
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	NB I-680 Off Ramp						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			AddLane			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 2	1	1 0	0 1	1	0 1	0 1	1	0 2	1 0
Volume Module:												
Base Vol:	217	131	1549	50	40	322	10	165	84	192	2209	331
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	217	131	1549	50	40	322	10	165	84	192	2209	331
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	131	1549	50	40	322	10	165	84	192	2209	331
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	131	1549	50	40	322	10	165	84	192	2209	331
RTOR Reduct:	0	0	192	0	0	10	0	0	84	0	0	0
RTOR Vol:	217	131	1357	50	40	312	10	165	0	192	2209	331
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	131	1357	50	40	312	10	165	0	192	2209	331
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	2.00	1.11	0.89	1.00	1.00	1.00	1.00	1.00	2.61	0.39
Final Sat.:	1650	1650	3000	1667	1467	1650	1650	1650	1650	1650	4305	645
Capacity Analysis Module:												
Vol/Sat:	0.13	0.08	0.45	0.03	0.03	0.19	0.01	0.10	0.00	0.12	0.51	0.51
Crit Volume:			679	45			10			847		
Crit Moves:			****	****			****			****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1150 Bancroft Rd-Walnut Av & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.820
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	127	Level Of Service:	D

Street Name:	Bancroft Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1 0	1 0	1	1 1	0 1	2	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	251	273	38	250	477	430	507	2241	344	37	1520	757
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	251	273	38	250	477	430	507	2241	344	37	1520	757
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	251	273	38	250	477	430	507	2241	344	37	1520	757
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	273	38	250	477	430	507	2241	344	37	1520	757
RTOR Reduct:	0	0	0	0	0	279	0	0	0	0	0	138
RTOR Vol:	251	273	38	250	477	151	507	2241	344	37	1520	620
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	251	273	38	250	477	151	507	2241	344	37	1520	620
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.34	1.46	0.20	1.03	1.97	1.00	2.00	2.60	0.40	1.00	3.00	1.00
Final Sat.:	2014	2401	333	1547	3248	1650	3000	4291	659	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.11	0.16	0.15	0.09	0.17	0.52	0.52	0.02	0.31	0.38
Crit Volume:			188	242			254					620
Crit Moves:			****	****			****					****

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1160 Oak Grove Rd & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.942
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Oak Grove Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 3	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	162	331	300	332	416	213	268	2136	123	345	857	185
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	331	300	332	416	213	268	2136	123	345	857	185
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	162	331	300	332	416	213	268	2136	123	345	857	185
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	162	331	300	332	416	213	268	2136	123	345	857	185
RTOR Reduct:	0	0	300	0	0	0	0	0	123	0	0	185
RTOR Vol:	162	331	0	332	416	213	268	2136	0	345	857	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	162	331	0	332	416	213	268	2136	0	345	857	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	3000	4950	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.00	0.20	0.13	0.13	0.09	0.43	0.00	0.21	0.26	0.00
Crit Volume:		166			332			712			345	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1170 Ayers Rd & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.595
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	A

Street Name:	Ayers Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	2	0 3	0 1	1	0 3	0 1
Volume Module:												
Base Vol:	91	23	7	124	13	165	278	2467	104	5	1048	131
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	91	23	7	124	13	165	278	2467	104	5	1048	131
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	91	23	7	124	13	165	278	2467	104	5	1048	131
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	23	7	124	13	165	278	2467	104	5	1048	131
RTOR Reduct:	0	0	0	0	0	153	0	0	91	0	0	124
RTOR Vol:	91	23	7	124	13	12	278	2467	13	5	1048	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	91	23	7	124	13	12	278	2467	13	5	1048	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.77	0.23	1.00	1.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1650	1265	385	1650	1650	1650	3000	4950	1650	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.02	0.02	0.08	0.01	0.01	0.09	0.50	0.01	0.00	0.21	0.00
Crit Volume:		30			124			822			5	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec):	100	Critical Vol./Cap.(X):	1.560
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	1	0	0	0	0	1
Volume Module:												
Base Vol:	753	44	1073	19	99	0	0	905	478	237	46	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	753	44	1073	19	99	0	0	905	478	237	46	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	753	44	1073	19	99	0	0	905	478	237	46	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	753	44	1073	19	99	0	0	905	478	237	46	7
RTOR Reduct:	0	0	237	0	0	0	0	0	0	0	0	0
RTOR Vol:	753	44	836	19	99	0	0	905	478	237	46	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	753	44	836	19	99	0	0	905	478	237	46	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.94	0.06	1.00	0.16	0.84	0.00	0.00	0.65	0.35	1.00	0.87	0.13
Final Sat.:	1559	91	1650	266	1384	0	0	1080	570	1650	1432	218
Capacity Analysis Module:												
Vol/Sat:	0.48	0.48	0.51	0.07	0.07	0.00	0.00	0.84	0.84	0.14	0.03	0.03
Crit Volume:			836		118			1383		237		
Crit Moves:			****		****			****		****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1190 Willow Pass Rd & SR-4 WB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.727
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	84	Level Of Service:	C

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	0	0	0	2	0	1	0	1
Volume Module:												
Base Vol:	205	1240	0	0	550	255	0	0	0	691	4	631
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	1240	0	0	550	255	0	0	0	691	4	631
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	205	1240	0	0	550	255	0	0	0	691	4	631
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	205	1240	0	0	550	255	0	0	0	691	4	631
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	205	1240	0	0	550	255	0	0	0	691	4	631
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	205	1240	0	0	550	255	0	0	0	691	4	631
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	1720	3440	0	0	3440	1720	0	0	0	3109	20	1720
Capacity Analysis Module:												
Vol/Sat:	0.12	0.36	0.00	0.00	0.16	0.15	0.00	0.00	0.00	0.22	0.20	0.37
Crit Volume:		620		0				0				631
Crit Moves:		****		****								****

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1200 Willow Pass Rd & SR-4 EB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.959
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	1	0	2 0 0	0	1 0 0	1	0	0	0 0 0
Volume Module:												
Base Vol:	0	1194	859	651	599	0	394	8	211	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1194	859	651	599	0	394	8	211	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1194	859	651	599	0	394	8	211	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1194	859	651	599	0	394	8	211	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1194	859	651	599	0	394	8	211	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1194	859	651	599	0	394	8	211	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.98	0.02	1.00	0.00	0.00	0.00
Final Sat.:	0	3440	1720	1720	3440	0	1686	34	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.50	0.38	0.17	0.00	0.23	0.23	0.12	0.00	0.00	0.00
Crit Volume:		597		651				402			0	
Crit Moves:		****		****				****				

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1210 Willow Pass Rd & Avila Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.256
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Willow Pass Rd						Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 1 0	1	0	2 0 1	1	0	1 0 1	1	0	1 0 1
Volume Module:												
Base Vol:	18	1277	187	11	578	133	769	870	101	459	221	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	1277	187	11	578	133	769	870	101	459	221	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	1277	187	11	578	133	769	870	101	459	221	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	1277	187	11	578	133	769	870	101	459	221	15
RTOR Reduct:	0	0	0	0	0	133	0	0	18	0	0	11
RTOR Vol:	18	1277	187	11	578	0	769	870	83	459	221	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	1277	187	11	578	0	769	870	83	459	221	4
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	2878	422	1650	3300	1650	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.44	0.44	0.01	0.18	0.00	0.47	0.53	0.05	0.28	0.13	0.00
Crit Volume:			732	11				870		459		
Crit Moves:			****	****				****		****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	0.667
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	69	Level Of Service:	B

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	3 0	0	0	3 1	0	2 0	0 0 1	0	1	0 0 1
Volume Module:												
Base Vol:	134	926	0	0	691	255	1060	0	529	47	59	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	926	0	0	691	255	1060	0	529	47	59	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	926	0	0	691	255	1060	0	529	47	59	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	926	0	0	691	255	1060	0	529	47	59	129
RTOR Reduct:	0	0	0	0	0	0	0	0	134	0	0	0
RTOR Vol:	134	926	0	0	691	255	1060	0	395	47	59	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	926	0	0	691	255	1060	0	395	47	59	129
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.00	1.00	2.00	0.00	1.00	0.44	0.56	1.00
Final Sat.:	1650	4950	0	0	4950	1650	3000	0	1650	732	918	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.19	0.00	0.00	0.14	0.15	0.35	0.00	0.24	0.06	0.06	0.08
Crit Volume:	134					255	530					129
Crit Moves:	****					****	****					****

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	1.614
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	3 0	0	0	2 0	0	2 0	0 0 1	0	0	0 0 0
Volume Module:												
Base Vol:	0	1388	0	0	254	0	909	0	2314	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1388	0	0	254	0	909	0	2314	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1388	0	0	254	0	909	0	2314	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1388	0	0	254	0	909	0	2314	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1388	0	0	254	0	909	0	2314	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1388	0	0	254	0	909	0	2314	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	3127	0	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.00	0.00	0.07	0.00	0.29	0.00	1.35	0.00	0.00	0.00
Crit Volume:		463		0					2314		0	
Crit Moves:		****		****					****			

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.853
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	155	Level Of Service:	D

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	14	142	65	675	232	266	446	1510	28	196	950	584
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	14	142	65	675	232	266	446	1510	28	196	950	584
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	14	142	65	675	232	266	446	1510	28	196	950	584
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	142	65	675	232	266	446	1510	28	196	950	584
RTOR Reduct:	0	0	65	0	0	0	0	0	0	0	0	371
RTOR Vol:	14	142	0	675	232	266	446	1510	28	196	950	213
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	14	142	0	675	232	266	446	1510	28	196	950	213
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.00	1.00	1.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	1650	1650	1650	3240	60	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.00	0.23	0.14	0.16	0.27	0.47	0.47	0.12	0.29	0.13
Crit Volume:		71		338					769	196		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1250 Bailey Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.917
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Bailey Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 0	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	520	33	495	18	23	19	17	1382	168	176	572	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	520	33	495	18	23	19	17	1382	168	176	572	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	520	33	495	18	23	19	17	1382	168	176	572	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	520	33	495	18	23	19	17	1382	168	176	572	14
RTOR Reduct:	0	0	176	0	0	0	0	0	0	0	0	0
RTOR Vol:	520	33	319	18	23	19	17	1382	168	176	572	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	520	33	319	18	23	19	17	1382	168	176	572	14
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.55	0.45	1.00	1.78	0.22	1.00	1.95	0.05
Final Sat.:	1650	1650	1650	1650	904	746	1650	2942	358	1650	3221	79
Capacity Analysis Module:												
Vol/Sat:	0.32	0.02	0.19	0.01	0.03	0.03	0.01	0.47	0.47	0.11	0.18	0.18
Crit Volume:	520					42		775		176		
Crit Moves:	****					****		****		****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec): 100 Critical Vol./Cap.(X): 1.855
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Ovl			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.0	0 1.0	2.0	0 2.0	0 1.0	0	1 1.0	0 1.0	0	0 0.0	0 1.0
Volume Module:												
Base Vol:	0	849	92	85	1104	304	493	254	1607	0	0	949
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	849	92	85	1104	304	493	254	1607	0	0	949
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	849	92	85	1104	304	493	254	1607	0	0	949
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	849	92	85	1104	304	493	254	1607	0	0	949
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	47
RTOR Vol:	0	849	92	85	1104	304	493	254	1607	0	0	902
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	849	92	85	1104	304	493	254	1607	0	0	902
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	3000	3300	1650	1650	1650	1650	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.06	0.03	0.33	0.18	0.30	0.15	0.97	0.00	0.00	0.55
Crit Volume:	0				552				1607			902
Crit Moves:	****				****				****			****

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.998
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2.0	0 1.0	1	0 2.0	0 1.0	1	0 1.0	1 0	1	0 2.0	0 1.0
Volume Module:												
Base Vol:	104	665	161	519	1087	274	293	1049	205	168	472	269
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	665	161	519	1087	274	293	1049	205	168	472	269
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	665	161	519	1087	274	293	1049	205	168	472	269
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	665	161	519	1087	274	293	1049	205	168	472	269
RTOR Reduct:	0	0	161	0	0	274	0	0	0	0	0	269
RTOR Vol:	104	665	0	519	1087	0	293	1049	205	168	472	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	665	0	519	1087	0	293	1049	205	168	472	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.67	0.33	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	2761	539	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.20	0.00	0.31	0.33	0.00	0.18	0.38	0.38	0.10	0.14	0.00
Crit Volume:		333		519					627	168		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Alt1 PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1280 Kirker Pass Rd & James Donlon Blvd [Future extension of James

Cycle (sec):	100	Critical Vol./Cap.(X):	1.003
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Kirker Pass Rd						James Donlon Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.0	0 1.0	2.0	0 2.0	0 0.0	0	0 0.0	0 0.0	1.0	0 0.0	0 1.0
Volume Module:												
Base Vol:	0	1305	1235	211	464	0	0	0	0	957	0	268
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1305	1235	211	464	0	0	0	0	957	0	268
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1305	1235	211	464	0	0	0	0	957	0	268
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1305	1235	211	464	0	0	0	0	957	0	268
RTOR Reduct:	0	0	957	0	0	0	0	0	0	0	0	116
RTOR Vol:	0	1305	278	211	464	0	0	0	0	957	0	152
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1305	278	211	464	0	0	0	0	957	0	152
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3440	1720	3127	3440	0	0	0	0	1720	0	1720
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.16	0.07	0.13	0.00	0.00	0.00	0.00	0.56	0.00	0.09
Crit Volume:		653		106				0		957		
Crit Moves:		****		****						****		

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alt 2 - AM peak hour

Scenario Report

Scenario:	Alt2AM
Command:	Alt2AM
Volume:	CVAM
Geometry:	CV
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.099
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	2 0	1 1	0	1 0	0 1	0	2 0	0 1	1
Volume Module:												
Base Vol:	10	1088	108	1749	757	28	76	12	28	242	3	1518
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1088	108	1749	757	28	76	12	28	242	3	1518
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1088	108	1749	757	28	76	12	28	242	3	1518
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1088	108	1749	757	28	76	12	28	242	3	1518
RTOR Reduct:	0	0	108	0	0	0	0	0	0	0	0	962
RTOR Vol:	10	1088	0	1749	757	28	76	12	28	242	3	556
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1088	0	1749	757	28	76	12	28	242	3	556
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91
Lanes:	1.00	2.00	1.00	2.00	1.93	0.07	1.00	0.30	0.70	2.00	0.01	1.99
Final Sat.:	1720	3440	1720	3127	3317	123	1720	516	1204	3127	18	3110
Capacity Analysis Module:												
Vol/Sat:	0.01	0.32	0.00	0.56	0.23	0.23	0.04	0.02	0.02	0.08	0.16	0.18
Crit Volume:		544			874			76				280
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1020 Port Chicago Hwy & Olivera Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.881
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	D

Street Name:	Port Chicago Hwy						Olivera Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 1	1	0	1 0 1	1	0	0 1 0
Volume Module:												
Base Vol:	95	501	21	190	739	193	229	169	152	36	240	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	95	501	21	190	739	193	229	169	152	36	240	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	501	21	190	739	193	229	169	152	36	240	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	501	21	190	739	193	229	169	152	36	240	150
RTOR Reduct:	0	0	0	0	0	193	0	0	95	0	0	0
RTOR Vol:	95	501	21	190	739	0	229	169	57	36	240	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	501	21	190	739	0	229	169	57	36	240	150
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.96	0.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.38
Final Sat.:	1650	1584	66	1650	1650	1650	1650	1650	1650	1650	1015	635
Capacity Analysis Module:												
Vol/Sat:	0.06	0.32	0.32	0.12	0.45	0.00	0.14	0.10	0.03	0.02	0.24	0.24
Crit Volume:	95				739		229					390
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1030 Farm Bureau Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.637
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	B

Street Name:	Farm Bureau Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0 1	1	0	1 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module:												
Base Vol:	139	293	139	186	242	18	18	555	63	185	1108	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	139	293	139	186	242	18	18	555	63	185	1108	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	139	293	139	186	242	18	18	555	63	185	1108	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	293	139	186	242	18	18	555	63	185	1108	155
RTOR Reduct:	0	0	139	0	0	18	0	0	0	0	0	155
RTOR Vol:	139	293	0	186	242	0	18	555	63	185	1108	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	293	0	186	242	0	18	555	63	185	1108	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.80	0.20	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	2964	336	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.18	0.00	0.11	0.15	0.00	0.01	0.19	0.19	0.11	0.34	0.00
Crit Volume:		293		186			18				554	
Crit Moves:		****		****			****				****	

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1040 SR 242-Commerce Av & Concord Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.715
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	80	Level Of Service:	C

Street Name:	SR242 SB-Commerce Av						Concord Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	2	0 0	1 1	0	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	19	25	78	1136	259	820	0	715	55	274	846	317
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	25	78	1136	259	820	0	715	55	274	846	317
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	19	25	78	1136	259	820	0	715	55	274	846	317
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	19	25	78	1136	259	820	0	715	55	274	846	317
RTOR Reduct:	0	0	78	0	0	0	0	0	0	0	0	0
RTOR Vol:	19	25	0	1136	259	820	0	715	55	274	846	317
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	19	25	0	1136	259	820	0	715	55	274	846	317
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	2.00	0.48	1.52	0.00	2.79	0.21	1.00	3.00	1.00
Final Sat.:	1650	1650	1650	3000	792	2280	0	4596	354	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.00	0.38	0.33	0.36	0.00	0.16	0.16	0.17	0.17	0.19
Crit Volume:		25		568				257		274		
Crit Moves:		****		****				****		****		

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1050 West St & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.785
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	106	Level Of Service:	C

Street Name:	West St						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	206	4	148	133	312	200	5	1053	180	161	1381	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	206	4	148	133	312	200	5	1053	180	161	1381	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	206	4	148	133	312	200	5	1053	180	161	1381	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	206	4	148	133	312	200	5	1053	180	161	1381	0
RTOR Reduct:	0	0	0	0	0	5	0	0	0	0	0	0
RTOR Vol:	206	4	148	133	312	195	5	1053	180	161	1381	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	206	4	148	133	312	195	5	1053	180	161	1381	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.03	0.97	1.00	1.00	1.00	1.00	1.71	0.29	1.00	2.00	1.00
Final Sat.:	1650	43	1607	1650	1650	1650	1650	2818	482	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.09	0.09	0.08	0.19	0.12	0.00	0.37	0.37	0.10	0.42	0.00
Crit Volume:	206				312				617	161		
Crit Moves:	****				****				****	****		

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1060 Denkinger Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.588
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	A

Street Name:	Denkinger Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	155	6	42	260	232	206	16	737	188	194	1218	55
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	155	6	42	260	232	206	16	737	188	194	1218	55
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	6	42	260	232	206	16	737	188	194	1218	55
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	6	42	260	232	206	16	737	188	194	1218	55
RTOR Reduct:	0	0	0	0	0	16	0	0	155	0	0	55
RTOR Vol:	155	6	42	260	232	190	16	737	33	194	1218	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	6	42	260	232	190	16	737	33	194	1218	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.12	0.88	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1720	215	1505	1720	1720	1720	1720	3440	1720	1720	3440	1720
Capacity Analysis Module:												
Vol/Sat:	0.09	0.03	0.03	0.15	0.13	0.11	0.01	0.21	0.02	0.11	0.35	0.00
Crit Volume:	155			232			16			609		
Crit Moves:	****			****			****			****		

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1070 Bailey Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.730
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	85	Level Of Service:	C

Street Name:	Bailey Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	47	104	15	95	460	340	90	727	196	122	1216	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	104	15	95	460	340	90	727	196	122	1216	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	104	15	95	460	340	90	727	196	122	1216	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	104	15	95	460	340	90	727	196	122	1216	54
RTOR Reduct:	0	0	0	0	0	90	0	0	47	0	0	54
RTOR Vol:	47	104	15	95	460	250	90	727	149	122	1216	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	104	15	95	460	250	90	727	149	122	1216	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.87	0.13	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1442	208	1650	1650	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.07	0.06	0.28	0.15	0.05	0.22	0.09	0.07	0.37	0.00
Crit Volume:	47			460			90			608		
Crit Moves:	****			****			****			****		

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1080 N Main St & Sunnyvale Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.968
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	N Main St									Sunnyvale Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	2	0 0	0 1
Volume Module:												
Base Vol:	39	250	1085	340	923	40	50	49	73	905	0	87
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	250	1085	340	923	40	50	49	73	905	0	87
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	250	1085	340	923	40	50	49	73	905	0	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	250	1085	340	923	40	50	49	73	905	0	87
RTOR Reduct:	0	0	498	0	0	0	0	0	0	0	0	87
RTOR Vol:	39	250	587	340	923	40	50	49	73	905	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	250	587	340	923	40	50	49	73	905	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.92	0.08	0.29	0.28	0.43	2.00	0.00	1.00
Final Sat.:	1650	3300	1650	1650	3163	137	480	470	700	3000	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.36	0.21	0.29	0.29	0.10	0.10	0.10	0.30	0.00	0.00
Crit Volume:			587	340				172		453		
Crit Moves:			****	****				****		****		

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1090 N Main St & Geary Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.805
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	117	Level Of Service:	D

Street Name:	N Main St									Geary Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 2	0 1	1	0 1	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	82	164	265	668	970	150	47	613	166	523	304	1081
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	82	164	265	668	970	150	47	613	166	523	304	1081
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	82	164	265	668	970	150	47	613	166	523	304	1081
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82	164	265	668	970	150	47	613	166	523	304	1081
RTOR Reduct:	0	0	265	0	0	47	0	0	0	0	0	367
RTOR Vol:	82	164	0	668	970	103	47	613	166	523	304	714
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	82	164	0	668	970	103	47	613	166	523	304	714
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	1.57	0.43	2.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	2597	703	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.00	0.22	0.29	0.06	0.03	0.24	0.24	0.17	0.09	0.43
Crit Volume:	82				485		47					714
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1100 Buskirk Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.581
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	A

Street Name:	Buskirk Av						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	0	0 0	0 0	2	0 2	0 0	0	0 3	0 1
Volume Module:												
Base Vol:	237	448	904	0	0	0	346	1076	0	0	1718	512
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	237	448	904	0	0	0	346	1076	0	0	1718	512
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	237	448	904	0	0	0	346	1076	0	0	1718	512
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	237	448	904	0	0	0	346	1076	0	0	1718	512
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	237	448	904	0	0	0	346	1076	0	0	1718	512
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	237	448	904	0	0	0	346	1076	0	0	1718	512
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	3.00	1.00
Final Sat.:	1720	3440	1720	0	0	0	3127	3440	0	0	5160	1720
Capacity Analysis Module:												
Vol/Sat:	0.14	0.13	0.53	0.00	0.00	0.00	0.11	0.31	0.00	0.00	0.33	0.30
Crit Volume:	237				0		173				573	
Crit Moves:	****						****				****	

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1110 Oak Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.609
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	B

Street Name:	Oak Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	2	0 3	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	274	271	87	136	355	203	156	1487	316	410	1772	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	274	271	87	136	355	203	156	1487	316	410	1772	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	274	271	87	136	355	203	156	1487	316	410	1772	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	274	271	87	136	355	203	156	1487	316	410	1772	65
RTOR Reduct:	0	0	87	0	0	86	0	0	0	0	0	65
RTOR Vol:	274	271	0	136	355	117	156	1487	316	410	1772	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	274	271	0	136	355	117	156	1487	316	410	1772	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	2.00	3.30	0.70	2.00	3.00	1.00
Final Sat.:	3000	3300	1650	1650	3300	1650	3000	5443	1157	3000	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.08	0.00	0.08	0.11	0.07	0.05	0.27	0.27	0.14	0.36	0.00
Crit Volume:	137				178			451		205		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1120 Bancroft Rd-Walnut Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.842
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	144	Level Of Service:	D

Street Name:	Bancroft Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	AddLane			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	647	260	186	189	577	234	55	801	527	218	1963	101
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	647	260	186	189	577	234	55	801	527	218	1963	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	647	260	186	189	577	234	55	801	527	218	1963	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	647	260	186	189	577	234	55	801	527	218	1963	101
RTOR Reduct:	0	0	186	0	0	55	0	0	0	0	0	0
RTOR Vol:	647	260	0	189	577	179	55	801	527	218	1963	101
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	647	260	0	189	577	179	55	801	527	218	1963	101
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.85	0.15
Final Sat.:	3000	3300	1650	1650	3300	1650	1650	3300	1650	1650	4708	242
Capacity Analysis Module:												
Vol/Sat:	0.22	0.08	0.00	0.11	0.17	0.11	0.03	0.24	0.32	0.13	0.42	0.42
Crit Volume:	324				289				527	218		
Crit Moves:	****				****				****	****		

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1130 Oak Grove Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.993
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Treat Bl						Oak Grove Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	2	0 2	0 1	2	0 2	0 1
Volume Module:												
Base Vol:	380	764	134	124	740	113	137	444	365	485	1798	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	380	764	134	124	740	113	137	444	365	485	1798	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	380	764	134	124	740	113	137	444	365	485	1798	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	380	764	134	124	740	113	137	444	365	485	1798	172
RTOR Reduct:	0	0	0	0	0	0	0	0	365	0	0	124
RTOR Vol:	380	764	134	124	740	113	137	444	0	485	1798	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	380	764	134	124	740	113	137	444	0	485	1798	48
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.55	0.45	1.00	2.60	0.40	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1650	4211	739	1650	4294	656	3000	3300	1650	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.23	0.18	0.18	0.08	0.17	0.17	0.05	0.13	0.00	0.16	0.54	0.03
Crit Volume:	380					284	69				899	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1140 I-680 NB Off Ramp & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.003
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	NB I-680 Off Ramp						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			AddLane			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 2	1	1 0	0 1	1	0 1	0 1	1	0 2	1 0
Volume Module:												
Base Vol:	411	280	1863	48	51	134	10	80	123	175	1778	213
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	411	280	1863	48	51	134	10	80	123	175	1778	213
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	411	280	1863	48	51	134	10	80	123	175	1778	213
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	411	280	1863	48	51	134	10	80	123	175	1778	213
RTOR Reduct:	0	0	175	0	0	10	0	0	123	0	0	0
RTOR Vol:	411	280	1688	48	51	124	10	80	0	175	1778	213
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	411	280	1688	48	51	124	10	80	0	175	1778	213
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.68	0.32
Final Sat.:	1650	1650	3000	1500	1650	1650	1650	1650	1650	1650	4420	530
Capacity Analysis Module:												
Vol/Sat:	0.25	0.17	0.56	0.03	0.03	0.08	0.01	0.05	0.00	0.11	0.40	0.40
Crit Volume:			844	48			10					664
Crit Moves:			****	****			****					****

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1150 Bancroft Rd-Walnut Av & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.805
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	117	Level Of Service:	D

Street Name:	Bancroft Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1 0	1 0	1	1 1	0 1	2	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	474	227	71	704	409	464	239	1312	182	97	1594	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	474	227	71	704	409	464	239	1312	182	97	1594	238
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	474	227	71	704	409	464	239	1312	182	97	1594	238
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	474	227	71	704	409	464	239	1312	182	97	1594	238
RTOR Reduct:	0	0	0	0	0	131	0	0	0	0	0	238
RTOR Vol:	474	227	71	704	409	333	239	1312	182	97	1594	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	474	227	71	704	409	333	239	1312	182	97	1594	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.84	0.88	0.28	1.90	1.10	1.00	2.00	2.63	0.37	1.00	3.00	1.00
Final Sat.:	2762	1456	456	2846	1819	1650	3000	4347	603	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.17	0.16	0.16	0.25	0.22	0.20	0.08	0.30	0.30	0.06	0.32	0.00
Crit Volume:		257		371			120				531	
Crit Moves:		****		****			****				****	

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1160 Oak Grove Rd & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.974
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Oak Grove Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 3	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	177	611	439	95	576	256	326	633	87	317	1065	1058
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	177	611	439	95	576	256	326	633	87	317	1065	1058
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	177	611	439	95	576	256	326	633	87	317	1065	1058
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	177	611	439	95	576	256	326	633	87	317	1065	1058
RTOR Reduct:	0	0	317	0	0	0	0	0	87	0	0	95
RTOR Vol:	177	611	122	95	576	256	326	633	0	317	1065	963
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	177	611	122	95	576	256	326	633	0	317	1065	963
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	3000	4950	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.19	0.07	0.06	0.17	0.16	0.11	0.13	0.00	0.19	0.32	0.58
Crit Volume:	177				288		163					963
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1170 Ayers Rd & Ygnacio Valley Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.761
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	95	Level Of Service:	C

Street Name:	Ayers Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	2	0 3	0 1	1	0 3	0 1
Volume Module:												
Base Vol:	20	27	0	142	79	349	120	863	46	3	2660	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	27	0	142	79	349	120	863	46	3	2660	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	27	0	142	79	349	120	863	46	3	2660	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	27	0	142	79	349	120	863	46	3	2660	86
RTOR Reduct:	0	0	0	0	0	66	0	0	20	0	0	86
RTOR Vol:	20	27	0	142	79	283	120	863	26	3	2660	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	27	0	142	79	283	120	863	26	3	2660	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	1.00	1.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1650	1650	0	1650	1650	1650	3000	4950	1650	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.00	0.09	0.05	0.17	0.04	0.17	0.02	0.00	0.54	0.00
Crit Volume:	20					283	60				887	
Crit Moves:	****					****	****				****	

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec):	100	Critical Vol./Cap.(X):	2.583
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	1	0	0	0	0	1
Volume Module:												
Base Vol:	2039	87	316	9	61	0	0	20	162	1884	786	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2039	87	316	9	61	0	0	20	162	1884	786	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2039	87	316	9	61	0	0	20	162	1884	786	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2039	87	316	9	61	0	0	20	162	1884	786	25
RTOR Reduct:	0	0	316	0	0	0	0	0	0	0	0	0
RTOR Vol:	2039	87	0	9	61	0	0	20	162	1884	786	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2039	87	0	9	61	0	0	20	162	1884	786	25
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.96	0.04	1.00	0.13	0.87	0.00	0.00	0.11	0.89	1.00	0.97	0.03
Final Sat.:	1582	68	1650	212	1438	0	0	181	1469	1650	1599	51
Capacity Analysis Module:												
Vol/Sat:	1.29	1.29	0.00	0.04	0.04	0.00	0.00	0.11	0.11	1.14	0.49	0.49
Crit Volume:		2126			70			182		1884		
Crit Moves:		****			****			****		****		

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1190 Willow Pass Rd & SR-4 WB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	1.004
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	0	0	0	2	0	1	0	1
Volume Module:												
Base Vol:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.93	0.07	1.00
Final Sat.:	1720	3440	0	0	3440	1720	0	0	0	3013	126	1720
Capacity Analysis Module:												
Vol/Sat:	0.18	0.41	0.00	0.00	0.23	0.77	0.00	0.00	0.00	0.49	0.45	0.60
Crit Volume:	305				395			0				1028
Crit Moves:	****				****							****

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1200 Willow Pass Rd & SR-4 EB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	1.274
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	1	0	2 0 0	0	1	0 0 1	0	0	0 0 0
Volume Module:												
Base Vol:	0	548	519	364	1925	0	1213	15	463	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	548	519	364	1925	0	1213	15	463	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	548	519	364	1925	0	1213	15	463	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	548	519	364	1925	0	1213	15	463	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	548	519	364	1925	0	1213	15	463	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	548	519	364	1925	0	1213	15	463	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.99	0.01	1.00	0.00	0.00	0.00
Final Sat.:	0	3440	1720	1720	3440	0	1699	21	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.30	0.21	0.56	0.00	0.71	0.71	0.27	0.00	0.00	0.00
Crit Volume:	0				963			1228			0	
Crit Moves:	****				****			****				

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1210 Willow Pass Rd & Avila Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.505
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 1 0	1	0	2 0 1	1	0	1 0 1	1	0	1 0 1
Volume Module:												
Base Vol:	129	790	148	11	1934	553	307	483	52	16	1080	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	790	148	11	1934	553	307	483	52	16	1080	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	129	790	148	11	1934	553	307	483	52	16	1080	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	790	148	11	1934	553	307	483	52	16	1080	13
RTOR Reduct:	0	0	0	0	0	307	0	0	52	0	0	11
RTOR Vol:	129	790	148	11	1934	246	307	483	0	16	1080	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	790	148	11	1934	246	307	483	0	16	1080	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.68	0.32	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	2779	521	1650	3300	1650	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.28	0.28	0.01	0.59	0.15	0.19	0.29	0.00	0.01	0.65	0.00
Crit Volume:	129				967		307				1080	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	1.263
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 0	0	0 3	1 0	2	0 0	0 1	0	1 0	0 1
Volume Module:												
Base Vol:	1049	638	0	0	2316	616	95	0	393	50	199	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1049	638	0	0	2316	616	95	0	393	50	199	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1049	638	0	0	2316	616	95	0	393	50	199	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1049	638	0	0	2316	616	95	0	393	50	199	129
RTOR Reduct:	0	0	0	0	0	0	0	0	393	0	0	0
RTOR Vol:	1049	638	0	0	2316	616	95	0	0	50	199	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1049	638	0	0	2316	616	95	0	0	50	199	129
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.16	0.84	2.00	0.00	1.00	0.20	0.80	1.00
Final Sat.:	1650	4950	0	0	5213	1387	3000	0	1650	331	1319	1650
Capacity Analysis Module:												
Vol/Sat:	0.64	0.13	0.00	0.00	0.44	0.44	0.03	0.00	0.00	0.15	0.15	0.08
Crit Volume:	1049				733		48				249	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	1.030
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 0	0	0 2	0 0	2	0 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	3462	0	0	357	0	423	0	617	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3462	0	0	357	0	423	0	617	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3462	0	0	357	0	423	0	617	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3462	0	0	357	0	423	0	617	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	3462	0	0	357	0	423	0	617	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3462	0	0	357	0	423	0	617	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	3127	0	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.67	0.00	0.00	0.10	0.00	0.14	0.00	0.36	0.00	0.00	0.00
Crit Volume:		1154		0					617		0	
Crit Moves:		****		****					****			

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.865
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	169	Level Of Service:	D

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	15	484	216	554	302	504	121	897	38	211	1520	764
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	484	216	554	302	504	121	897	38	211	1520	764
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	484	216	554	302	504	121	897	38	211	1520	764
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	484	216	554	302	504	121	897	38	211	1520	764
RTOR Reduct:	0	0	211	0	0	0	0	0	0	0	0	305
RTOR Vol:	15	484	5	554	302	504	121	897	38	211	1520	459
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	484	5	554	302	504	121	897	38	211	1520	459
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.00	1.00	1.00	1.92	0.08	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	1650	1650	1650	3166	134	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.15	0.00	0.18	0.18	0.31	0.07	0.28	0.28	0.13	0.46	0.28
Crit Volume:		242		277			121				760	
Crit Moves:		****		****			****				****	

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1250 Bailey Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.771
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	81	Level Of Service:	C

Street Name:	Bailey Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 0	1 0	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	272	3	130	0	1	4	3	299	234	254	1980	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	272	3	130	0	1	4	3	299	234	254	1980	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	272	3	130	0	1	4	3	299	234	254	1980	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	272	3	130	0	1	4	3	299	234	254	1980	3
RTOR Reduct:	0	0	130	0	0	0	0	0	0	0	0	0
RTOR Vol:	272	3	0	0	1	4	3	299	234	254	1980	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	272	3	0	0	1	4	3	299	234	254	1980	3
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.20	0.80	1.00	1.12	0.88	1.00	1.99	0.01
Final Sat.:	1650	1650	1650	1650	330	1320	1650	1851	1449	1650	3295	5
Capacity Analysis Module:												
Vol/Sat:	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.16	0.15	0.60	0.60
Crit Volume:	272				5		3				992	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.909
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Ovl			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	2	0	2 0 1	0	1	1 0 1	0	0	0 0 1
Volume Module:												
Base Vol:	0	1011	158	145	622	330	739	141	445	0	0	255
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1011	158	145	622	330	739	141	445	0	0	255
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1011	158	145	622	330	739	141	445	0	0	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1011	158	145	622	330	739	141	445	0	0	255
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	80
RTOR Vol:	0	1011	158	145	622	330	739	141	445	0	0	175
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1011	158	145	622	330	739	141	445	0	0	175
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	3000	3300	1650	1650	1650	1650	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.10	0.05	0.19	0.20	0.45	0.09	0.27	0.00	0.00	0.11
Crit Volume:		506			73			739				175
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.871
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 177 Level Of Service: D

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 0 1	1	0	2 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module:												
Base Vol:	178	389	187	145	440	117	273	1522	227	165	420	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	389	187	145	440	117	273	1522	227	165	420	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	389	187	145	440	117	273	1522	227	165	420	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	389	187	145	440	117	273	1522	227	165	420	81
RTOR Reduct:	0	0	165	0	0	117	0	0	0	0	0	81
RTOR Vol:	178	389	22	145	440	0	273	1522	227	165	420	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	389	22	145	440	0	273	1522	227	165	420	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.74	0.26	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	2872	428	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.12	0.01	0.09	0.13	0.00	0.17	0.53	0.53	0.10	0.13	0.00
Crit Volume:	178				220			875		165		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Alt 2 - AM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1280 Kirker Pass Rd & James Donlon Blvd [Future extension of James

Cycle (sec):	100	Critical Vol./Cap.(X):	1.160
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Kirker Pass Rd						James Donlon Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.0	1	2	0 2.0	0	0	0 0	0	1	0 0	1
Volume Module:												
Base Vol:	0	367	1107	288	1562	0	0	0	0	1215	0	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	367	1107	288	1562	0	0	0	0	1215	0	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	367	1107	288	1562	0	0	0	0	1215	0	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	367	1107	288	1562	0	0	0	0	1215	0	74
RTOR Reduct:	0	0	1107	0	0	0	0	0	0	0	0	74
RTOR Vol:	0	367	0	288	1562	0	0	0	0	1215	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	367	0	288	1562	0	0	0	0	1215	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3440	1720	3127	3440	0	0	0	0	1720	0	1720
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.00	0.09	0.45	0.00	0.00	0.00	0.00	0.71	0.00	0.00
Crit Volume:		184			781			0		1215		
Crit Moves:					****					****		

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alt 2 - PM peak hour

Scenario Report

Scenario:	Alt2PM
Command:	Alt2PM
Volume:	CVPM
Geometry:	CV
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.084
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	2 0	1 1	0	1 0	0 1	0	2 0	0 1	1
Volume Module:												
Base Vol:	20	983	162	1359	1148	78	76	6	12	118	11	1736
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	983	162	1359	1148	78	76	6	12	118	11	1736
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	983	162	1359	1148	78	76	6	12	118	11	1736
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	983	162	1359	1148	78	76	6	12	118	11	1736
RTOR Reduct:	0	0	65	0	0	0	0	0	0	0	0	747
RTOR Vol:	20	983	97	1359	1148	78	76	6	12	118	11	989
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	983	97	1359	1148	78	76	6	12	118	11	989
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91
Lanes:	1.00	2.00	1.00	2.00	1.87	0.13	1.00	0.33	0.67	2.00	0.02	1.98
Final Sat.:	1720	3440	1720	3127	3221	219	1720	573	1147	3127	38	3093
Capacity Analysis Module:												
Vol/Sat:	0.01	0.29	0.06	0.43	0.36	0.36	0.04	0.01	0.01	0.04	0.29	0.32
Crit Volume:		492			680			76				500
Crit Moves:	****			****			****					****

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1020 Port Chicago Hwy & Olivera Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.988
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Port Chicago Hwy						Olivera Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 1	1	0	1 0 1	1	0	0 1 0
Volume Module:												
Base Vol:	148	653	51	259	593	285	230	417	100	35	277	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	148	653	51	259	593	285	230	417	100	35	277	160
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	148	653	51	259	593	285	230	417	100	35	277	160
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	148	653	51	259	593	285	230	417	100	35	277	160
RTOR Reduct:	0	0	0	0	0	230	0	0	100	0	0	0
RTOR Vol:	148	653	51	259	593	55	230	417	0	35	277	160
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	148	653	51	259	593	55	230	417	0	35	277	160
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.93	0.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.37
Final Sat.:	1650	1530	120	1650	1650	1650	1650	1650	1650	1650	1046	604
Capacity Analysis Module:												
Vol/Sat:	0.09	0.43	0.43	0.16	0.36	0.03	0.14	0.25	0.00	0.02	0.26	0.26
Crit Volume:		704			259			230				437
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1030 Farm Bureau Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.962
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Farm Bureau Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0 1	1	0	1 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module:												
Base Vol:	74	352	266	245	376	28	30	1000	96	442	311	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	74	352	266	245	376	28	30	1000	96	442	311	152
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	74	352	266	245	376	28	30	1000	96	442	311	152
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	352	266	245	376	28	30	1000	96	442	311	152
RTOR Reduct:	0	0	266	0	0	28	0	0	0	0	0	152
RTOR Vol:	74	352	0	245	376	0	30	1000	96	442	311	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	352	0	245	376	0	30	1000	96	442	311	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.82	0.18	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	3011	289	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.21	0.00	0.15	0.23	0.00	0.02	0.33	0.33	0.27	0.09	0.00
Crit Volume:		352			245				548	442		
Crit Moves:		****			****				****	****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1040 SR 242-Commerce Av & Concord Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.835
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	138	Level Of Service:	D

Street Name:	SR242 SB-Commerce Av						Concord Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	2	0 0	1 1	0	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	34	88	280	944	95	433	0	1681	54	171	779	272
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	88	280	944	95	433	0	1681	54	171	779	272
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	34	88	280	944	95	433	0	1681	54	171	779	272
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	88	280	944	95	433	0	1681	54	171	779	272
RTOR Reduct:	0	0	171	0	0	0	0	0	0	0	0	0
RTOR Vol:	34	88	109	944	95	433	0	1681	54	171	779	272
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	34	88	109	944	95	433	0	1681	54	171	779	272
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	2.00	0.36	1.64	0.00	2.91	0.09	1.00	3.00	1.00
Final Sat.:	1650	1650	1650	3000	594	2460	0	4796	154	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.02	0.05	0.07	0.31	0.16	0.18	0.00	0.35	0.35	0.10	0.16	0.16
Crit Volume:			109	472					578	171		
Crit Moves:			****	****					****	****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1050 West St & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.634
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	62	Level Of Service:	B

Street Name:	West St						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	114	54	34	0	8	8	28	1675	108	32	1093	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	54	34	0	8	8	28	1675	108	32	1093	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	114	54	34	0	8	8	28	1675	108	32	1093	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	54	34	0	8	8	28	1675	108	32	1093	2
RTOR Reduct:	0	0	0	0	0	8	0	0	0	0	0	0
RTOR Vol:	114	54	34	0	8	0	28	1675	108	32	1093	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	114	54	34	0	8	0	28	1675	108	32	1093	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.61	0.39	1.00	1.00	1.00	1.00	1.88	0.12	1.00	2.00	1.00
Final Sat.:	1650	1013	638	1650	1650	1650	1650	3100	200	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.05	0.05	0.00	0.00	0.00	0.02	0.54	0.54	0.02	0.33	0.00
Crit Volume:	114				8			892		32		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1060 Denkinger Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.642
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	B

Street Name:	Denkinger Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	244	125	160	59	56	59	139	1369	158	75	828	173
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	244	125	160	59	56	59	139	1369	158	75	828	173
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	244	125	160	59	56	59	139	1369	158	75	828	173
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	244	125	160	59	56	59	139	1369	158	75	828	173
RTOR Reduct:	0	0	0	0	0	59	0	0	158	0	0	59
RTOR Vol:	244	125	160	59	56	0	139	1369	0	75	828	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	244	125	160	59	56	0	139	1369	0	75	828	114
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.44	0.56	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1720	754	966	1720	1720	1720	1720	3440	1720	1720	3440	1720
Capacity Analysis Module:												
Vol/Sat:	0.14	0.17	0.17	0.03	0.03	0.00	0.08	0.40	0.00	0.04	0.24	0.07
Crit Volume:		285			59			685			75	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1070 Bailey Rd & Concord Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.582
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	A

Street Name:	Bailey Rd						Concord Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	71	217	40	63	131	92	186	1194	102	26	909	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	217	40	63	131	92	186	1194	102	26	909	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	217	40	63	131	92	186	1194	102	26	909	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	217	40	63	131	92	186	1194	102	26	909	65
RTOR Reduct:	0	0	0	0	0	92	0	0	71	0	0	63
RTOR Vol:	71	217	40	63	131	0	186	1194	31	26	909	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	71	217	40	63	131	0	186	1194	31	26	909	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.84	0.16	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1393	257	1650	1650	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.16	0.16	0.04	0.08	0.00	0.11	0.36	0.02	0.02	0.28	0.00
Crit Volume:		257			63			186			455	
Crit Moves:		****			****			****			****	

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1080 N Main St & Sunnyvale Av

Cycle (sec):	100	Critical Vol./Cap.(X):	0.860
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	163	Level Of Service:	D

Street Name:	N Main St						Sunnyvale Av					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	2	0 0	0 1
Volume Module:												
Base Vol:	89	643	786	344	732	110	109	38	58	998	0	339
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	643	786	344	732	110	109	38	58	998	0	339
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	643	786	344	732	110	109	38	58	998	0	339
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	643	786	344	732	110	109	38	58	998	0	339
RTOR Reduct:	0	0	549	0	0	0	0	0	0	0	0	339
RTOR Vol:	89	643	237	344	732	110	109	38	58	998	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	643	237	344	732	110	109	38	58	998	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.74	0.26	0.53	0.19	0.28	2.00	0.00	1.00
Final Sat.:	1650	3300	1650	1650	2869	431	877	306	467	3000	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.19	0.14	0.21	0.26	0.26	0.12	0.12	0.12	0.33	0.00	0.00
Crit Volume:		322		344					205	499		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1090 N Main St & Geary Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.023
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	N Main St						Geary Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 2	0 1	1	0 1	1 0	2	0 2	0 1
Volume Module:												
Base Vol:	346	445	492	831	632	240	68	577	356	985	398	894
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	346	445	492	831	632	240	68	577	356	985	398	894
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	346	445	492	831	632	240	68	577	356	985	398	894
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	346	445	492	831	632	240	68	577	356	985	398	894
RTOR Reduct:	0	0	492	0	0	68	0	0	0	0	0	457
RTOR Vol:	346	445	0	831	632	172	68	577	356	985	398	437
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	346	445	0	831	632	172	68	577	356	985	398	437
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	1.24	0.76	2.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	2041	1259	3000	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.21	0.13	0.00	0.28	0.19	0.10	0.04	0.28	0.28	0.33	0.12	0.26
Crit Volume:		223		416				467		493		
Crit Moves:		****		****				****		****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1100 Buskirk Av & Treat Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.676
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 70 Level Of Service: B

Street Name:	Buskirk Av						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	0	0 0	0 0	2	0 2	0 0	0	0 3	0 1
Volume Module:												
Base Vol:	205	279	831	0	0	0	510	1235	0	0	2031	573
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	279	831	0	0	0	510	1235	0	0	2031	573
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	205	279	831	0	0	0	510	1235	0	0	2031	573
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	205	279	831	0	0	0	510	1235	0	0	2031	573
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	205	279	831	0	0	0	510	1235	0	0	2031	573
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	205	279	831	0	0	0	510	1235	0	0	2031	573
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	3.00	1.00
Final Sat.:	1720	3440	1720	0	0	0	3127	3440	0	0	5160	1720
Capacity Analysis Module:												
Vol/Sat:	0.12	0.08	0.48	0.00	0.00	0.00	0.16	0.36	0.00	0.00	0.39	0.33
Crit Volume:	205				0		255				677	
Crit Moves:	****						****				****	

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1110 Oak Rd & Treat Bl

Cycle (sec): 100 Critical Vol./Cap.(X): 0.817
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 125 Level Of Service: D

Street Name:	Oak Rd						Treat Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	1	0 2	0 1	2	0 3	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	389	331	179	146	418	484	171	1729	251	454	1899	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	389	331	179	146	418	484	171	1729	251	454	1899	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	389	331	179	146	418	484	171	1729	251	454	1899	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	389	331	179	146	418	484	171	1729	251	454	1899	77
RTOR Reduct:	0	0	179	0	0	94	0	0	0	0	0	77
RTOR Vol:	389	331	0	146	418	390	171	1729	251	454	1899	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	389	331	0	146	418	390	171	1729	251	454	1899	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	2.00	3.49	0.51	2.00	3.00	1.00
Final Sat.:	3000	3300	1650	1650	3300	1650	3000	5763	837	3000	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.10	0.00	0.09	0.13	0.24	0.06	0.30	0.30	0.15	0.38	0.00
Crit Volume:	195					390		495		227		
Crit Moves:	****					****		****		****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1120 Bancroft Rd-Walnut Av & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.966
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Bancroft Rd									Treat Bl								
Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Protected			Protected								
Rights:	AddLane			Include			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	2	0	2	0	1	1	0	2	0	1	1	0	2	1	0	1	0	2	1	0
Volume Module:																		
Base Vol:	850	479	173	204	411	244	215	1719	623	141	1230	118						
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Initial Bse:	850	479	173	204	411	244	215	1719	623	141	1230	118						
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
PHF Volume:	850	479	173	204	411	244	215	1719	623	141	1230	118						
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0						
Reduced Vol:	850	479	173	204	411	244	215	1719	623	141	1230	118						
RTOR Reduct:	0	0	141	0	0	215	0	0	0	0	0	0						
RTOR Vol:	850	479	32	204	411	29	215	1719	623	141	1230	118						
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
FinalVolume:	850	479	32	204	411	29	215	1719	623	141	1230	118						
Saturation Flow Module:																		
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650						
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.20	0.80	1.00	2.74	0.26						
Final Sat.:	3000	3300	1650	1650	3300	1650	1650	3633	1317	1650	4517	433						
Capacity Analysis Module:																		
Vol/Sat:	0.28	0.15	0.02	0.12	0.12	0.02	0.13	0.47	0.47	0.09	0.27	0.27						
Crit Volume:	425				206				781	141								
Crit Moves:	****				****				****	****								

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1130 Oak Grove Rd & Treat Bl

Cycle (sec):	100	Critical Vol./Cap.(X):	0.851
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	153	Level Of Service:	D

Street Name:	Treat Bl									Oak Grove Rd								
Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Protected			Protected								
Rights:	Include			Include			Include			Include								
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0						
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
Lanes:	1	0	2	1	0	1	0	2	1	0	2	0	2	0	1	2	0	2	0	1
Volume Module:																		
Base Vol:	339	528	271	273	485	146	210	1545	268	150	938	200						
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Initial Bse:	339	528	271	273	485	146	210	1545	268	150	938	200						
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
PHF Volume:	339	528	271	273	485	146	210	1545	268	150	938	200						
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0						
Reduced Vol:	339	528	271	273	485	146	210	1545	268	150	938	200						
RTOR Reduct:	0	0	0	0	0	0	0	0	268	0	0	200						
RTOR Vol:	339	528	271	273	485	146	210	1545	0	150	938	0						
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
FinalVolume:	339	528	271	273	485	146	210	1545	0	150	938	0						
Saturation Flow Module:																		
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650						
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00						
Lanes:	1.00	2.00	1.00	1.00	2.31	0.69	2.00	2.00	1.00	2.00	2.00	1.00						
Final Sat.:	1650	3300	1650	1650	3805	1145	3000	3300	1650	3000	3300	1650						
Capacity Analysis Module:																		
Vol/Sat:	0.21	0.16	0.16	0.17	0.13	0.13	0.07	0.47	0.00	0.05	0.28	0.00						
Crit Volume:	339					210		773		75								
Crit Moves:	****					****		****		****								

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1140 I-680 NB Off Ramp & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.005
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	NB I-680 Off Ramp						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			AddLane			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 2	1	1 0	0 1	1	0 1	0 1	1	0 2	1 0
Volume Module:												
Base Vol:	217	131	1559	54	41	322	10	152	89	189	2195	331
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	217	131	1559	54	41	322	10	152	89	189	2195	331
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	131	1559	54	41	322	10	152	89	189	2195	331
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	131	1559	54	41	322	10	152	89	189	2195	331
RTOR Reduct:	0	0	189	0	0	10	0	0	89	0	0	0
RTOR Vol:	217	131	1370	54	41	312	10	152	0	189	2195	331
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	131	1370	54	41	312	10	152	0	189	2195	331
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	2.00	1.14	0.86	1.00	1.00	1.00	1.00	1.00	2.61	0.39
Final Sat.:	1650	1650	3000	1705	1424	1650	1650	1650	1650	1650	4301	649
Capacity Analysis Module:												
Vol/Sat:	0.13	0.08	0.46	0.03	0.03	0.19	0.01	0.09	0.00	0.11	0.51	0.51
Crit Volume:			685	48			10					842
Crit Moves:			****	****			****					****

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1150 Bancroft Rd-Walnut Av & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.810
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 120 Level Of Service: D

Street Name:	Bancroft Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1 0	1 0	1	1 1	0 1	2	0 2	1 0	1	0 3	0 1
Volume Module:												
Base Vol:	251	267	38	250	450	447	492	2241	344	33	1503	758
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	251	267	38	250	450	447	492	2241	344	33	1503	758
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	251	267	38	250	450	447	492	2241	344	33	1503	758
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	267	38	250	450	447	492	2241	344	33	1503	758
RTOR Reduct:	0	0	0	0	0	271	0	0	0	0	0	138
RTOR Vol:	251	267	38	250	450	176	492	2241	344	33	1503	621
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	251	267	38	250	450	176	492	2241	344	33	1503	621
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.35	1.44	0.21	1.07	1.93	1.00	2.00	2.60	0.40	1.00	3.00	1.00
Final Sat.:	2029	2379	339	1607	3182	1650	3000	4291	659	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.12	0.11	0.11	0.16	0.14	0.11	0.16	0.52	0.52	0.02	0.30	0.38
Crit Volume:		185		233					862	33		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1160 Oak Grove Rd & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.923
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Oak Grove Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 2	0 1	2	0 3	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	155	316	332	332	423	213	268	2137	134	320	854	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	155	316	332	332	423	213	268	2137	134	320	854	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	155	316	332	332	423	213	268	2137	134	320	854	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	316	332	332	423	213	268	2137	134	320	854	184
RTOR Reduct:	0	0	320	0	0	0	0	0	134	0	0	184
RTOR Vol:	155	316	12	332	423	213	268	2137	0	320	854	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	316	12	332	423	213	268	2137	0	320	854	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	3000	4950	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.09	0.10	0.01	0.20	0.13	0.13	0.09	0.43	0.00	0.19	0.26	0.00
Crit Volume:		158		332				712		320		
Crit Moves:		****		****				****		****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1170 Ayers Rd & Ygnacio Valley Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.602
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 57 Level Of Service: B

Street Name:	Ayers Rd						Ygnacio Valley Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 0	1 0	1	0 1	0 1	2	0 3	0 1	1	0 3	0 1
Volume Module:												
Base Vol:	81	22	7	131	13	162	293	2486	103	5	1012	137
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	22	7	131	13	162	293	2486	103	5	1012	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	22	7	131	13	162	293	2486	103	5	1012	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	22	7	131	13	162	293	2486	103	5	1012	137
RTOR Reduct:	0	0	0	0	0	161	0	0	81	0	0	131
RTOR Vol:	81	22	7	131	13	1	293	2486	22	5	1012	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	22	7	131	13	1	293	2486	22	5	1012	6
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.76	0.24	1.00	1.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	1650	1252	398	1650	1650	1650	3000	4950	1650	1650	4950	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.02	0.02	0.08	0.01	0.00	0.10	0.50	0.01	0.00	0.20	0.00
Crit Volume:			29	131				829		5		
Crit Moves:			****	****				****		****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec):	100	Critical Vol./Cap.(X):	2.455
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	1	0	0	0	0	1
Volume Module:												
Base Vol:	226	46	1287	19	99	0	0	798	1847	237	18	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	226	46	1287	19	99	0	0	798	1847	237	18	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	226	46	1287	19	99	0	0	798	1847	237	18	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	46	1287	19	99	0	0	798	1847	237	18	7
RTOR Reduct:	0	0	237	0	0	0	0	0	0	0	0	0
RTOR Vol:	226	46	1050	19	99	0	0	798	1847	237	18	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	226	46	1050	19	99	0	0	798	1847	237	18	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.83	0.17	1.00	0.16	0.84	0.00	0.00	0.30	0.70	1.00	0.72	0.28
Final Sat.:	1371	279	1650	266	1384	0	0	498	1152	1650	1188	462
Capacity Analysis Module:												
Vol/Sat:	0.16	0.16	0.64	0.07	0.07	0.00	0.00	1.60	1.60	0.14	0.02	0.02
Crit Volume:			1050		118			2645		237		
Crit Moves:			****		****			****		****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1190 Willow Pass Rd & SR-4 WB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.685
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	72	Level Of Service:	B

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	0	0	0	2	0	1	0	0
Volume Module:												
Base Vol:	435	1200	0	0	624	1441	0	0	0	764	19	361
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	435	1200	0	0	624	1441	0	0	0	764	19	361
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	435	1200	0	0	624	1441	0	0	0	764	19	361
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	435	1200	0	0	624	1441	0	0	0	764	19	361
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	435	1200	0	0	624	1441	0	0	0	764	19	361
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	435	1200	0	0	624	1441	0	0	0	764	19	361
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.95	0.05	1.00
Final Sat.:	1720	3440	0	0	3440	1720	0	0	0	3051	83	1720
Capacity Analysis Module:												
Vol/Sat:	0.25	0.35	0.00	0.00	0.18	0.84	0.00	0.00	0.00	0.25	0.23	0.21
Crit Volume:	435				312			0		391		
Crit Moves:	****				****					****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1200 Willow Pass Rd & SR-4 EB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.914
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	1	0	2 0 0	0	1 0	0 1	0	0	0 0 0
Volume Module:												
Base Vol:	0	1133	893	501	896	0	497	8	211	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1133	893	501	896	0	497	8	211	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1133	893	501	896	0	497	8	211	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1133	893	501	896	0	497	8	211	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1133	893	501	896	0	497	8	211	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1133	893	501	896	0	497	8	211	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.98	0.02	1.00	0.00	0.00	0.00
Final Sat.:	0	3440	1720	1720	3440	0	1693	27	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.33	0.52	0.29	0.26	0.00	0.29	0.29	0.12	0.00	0.00	0.00
Crit Volume:		567		501				505			0	
Crit Moves:		****		****				****				

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1210 Willow Pass Rd & Avila Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.266
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 1 0	1	0	2 0 1	1	0	1 0 1	1	0	1 0 1
Volume Module:												
Base Vol:	37	1292	233	11	835	263	722	762	79	236	593	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	1292	233	11	835	263	722	762	79	236	593	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	1292	233	11	835	263	722	762	79	236	593	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	1292	233	11	835	263	722	762	79	236	593	15
RTOR Reduct:	0	0	0	0	0	263	0	0	37	0	0	11
RTOR Vol:	37	1292	233	11	835	0	722	762	42	236	593	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	1292	233	11	835	0	722	762	42	236	593	4
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.69	0.31	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1650	2796	504	1650	3300	1650	1650	1650	1650	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.02	0.46	0.46	0.01	0.25	0.00	0.44	0.46	0.03	0.14	0.36	0.00
Crit Volume:			763	11			722				593	
Crit Moves:			****	****			****				****	

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	0.664
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	68	Level Of Service:	B

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	3 0	0	0	3 1	0	2 0	0 0 1	0	1	0 0 1
Volume Module:												
Base Vol:	135	926	0	0	824	182	1054	0	666	47	59	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	135	926	0	0	824	182	1054	0	666	47	59	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	135	926	0	0	824	182	1054	0	666	47	59	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	135	926	0	0	824	182	1054	0	666	47	59	129
RTOR Reduct:	0	0	0	0	0	0	0	0	135	0	0	0
RTOR Vol:	135	926	0	0	824	182	1054	0	531	47	59	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	135	926	0	0	824	182	1054	0	531	47	59	129
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	3.28	0.72	2.00	0.00	1.00	0.44	0.56	1.00
Final Sat.:	1650	4950	0	0	5406	1194	3000	0	1650	732	918	1650
Capacity Analysis Module:												
Vol/Sat:	0.08	0.19	0.00	0.00	0.15	0.15	0.35	0.00	0.32	0.06	0.06	0.08
Crit Volume:	135				252		527					129
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	1.592
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	3 0	0	0	2 0	0	2 0	0 0 1	0	0	0 0 0
Volume Module:												
Base Vol:	0	1352	0	0	250	0	909	0	2287	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1352	0	0	250	0	909	0	2287	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1352	0	0	250	0	909	0	2287	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1352	0	0	250	0	909	0	2287	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1352	0	0	250	0	909	0	2287	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1352	0	0	250	0	909	0	2287	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	3127	0	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.07	0.00	0.29	0.00	1.33	0.00	0.00	0.00
Crit Volume:		451			0				2287		0	
Crit Moves:		****			****				****			

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.891
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: D

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	2 0	1 1	0	1 0	1 1	0	1 0	2 0	1
Volume Module:												
Base Vol:	16	142	61	691	232	336	462	1483	21	141	1114	585
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	142	61	691	232	336	462	1483	21	141	1114	585
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	142	61	691	232	336	462	1483	21	141	1114	585
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	142	61	691	232	336	462	1483	21	141	1114	585
RTOR Reduct:	0	0	61	0	0	0	0	0	0	0	0	380
RTOR Vol:	16	142	0	691	232	336	462	1483	21	141	1114	205
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	142	0	691	232	336	462	1483	21	141	1114	205
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.00	1.00	1.00	1.97	0.03	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	1650	1650	1650	3254	46	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.00	0.23	0.14	0.20	0.28	0.46	0.46	0.09	0.34	0.12
Crit Volume:		71		346			462				557	
Crit Moves:		****		****			****				****	

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1250 Bailey Rd & Willow Pass Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.925
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Bailey Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	0 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	528	33	503	18	23	19	17	1387	172	176	553	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	528	33	503	18	23	19	17	1387	172	176	553	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	528	33	503	18	23	19	17	1387	172	176	553	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	528	33	503	18	23	19	17	1387	172	176	553	14
RTOR Reduct:	0	0	176	0	0	0	0	0	0	0	0	0
RTOR Vol:	528	33	327	18	23	19	17	1387	172	176	553	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	528	33	327	18	23	19	17	1387	172	176	553	14
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.55	0.45	1.00	1.78	0.22	1.00	1.95	0.05
Final Sat.:	1650	1650	1650	1650	904	746	1650	2936	364	1650	3219	81
Capacity Analysis Module:												
Vol/Sat:	0.32	0.02	0.20	0.01	0.03	0.03	0.01	0.47	0.47	0.11	0.17	0.17
Crit Volume:	528					42		780		176		
Crit Moves:	****					****		****		****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec): 100 Critical Vol./Cap.(X): 1.843
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Ovl			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.0	0 1.0	2.0	0 2.0	0 1.0	0	1 1.0	0 1.0	0	0 0.0	0 1.0
Volume Module:												
Base Vol:	0	826	92	85	1096	302	469	254	1584	0	0	956
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	826	92	85	1096	302	469	254	1584	0	0	956
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	826	92	85	1096	302	469	254	1584	0	0	956
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	826	92	85	1096	302	469	254	1584	0	0	956
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	47
RTOR Vol:	0	826	92	85	1096	302	469	254	1584	0	0	909
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	826	92	85	1096	302	469	254	1584	0	0	909
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	3000	3300	1650	1650	1650	1650	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.25	0.06	0.03	0.33	0.18	0.28	0.15	0.96	0.00	0.00	0.55
Crit Volume:	0				548				1584			909
Crit Moves:	****				****				****			****

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.994
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2.0	0 1.0	1	0 2.0	0 1.0	1	0 1.0	1 0	1	0 2.0	0 1.0
Volume Module:												
Base Vol:	108	665	161	487	1092	295	241	1081	227	166	500	198
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	665	161	487	1092	295	241	1081	227	166	500	198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	108	665	161	487	1092	295	241	1081	227	166	500	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	108	665	161	487	1092	295	241	1081	227	166	500	198
RTOR Reduct:	0	0	161	0	0	241	0	0	0	0	0	198
RTOR Vol:	108	665	0	487	1092	54	241	1081	227	166	500	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	108	665	0	487	1092	54	241	1081	227	166	500	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.65	0.35	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	2727	573	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.20	0.00	0.30	0.33	0.03	0.15	0.40	0.40	0.10	0.15	0.00
Crit Volume:		333		487					654	166		
Crit Moves:		****		****					****	****		

Former NWS Concord TIA
Alt 2 - PM peak hour

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1280 Kirker Pass Rd & James Donlon Blvd [Future extension of James

Cycle (sec):	100	Critical Vol./Cap.(X):	1.003
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Kirker Pass Rd						James Donlon Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.0	0 1.0	2.0	0 2.0	0 0.0	0	0 0.0	0 0.0	1.0	0 0.0	0 1.0
Volume Module:												
Base Vol:	0	1305	1242	204	464	0	0	0	0	961	0	263
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1305	1242	204	464	0	0	0	0	961	0	263
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1305	1242	204	464	0	0	0	0	961	0	263
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1305	1242	204	464	0	0	0	0	961	0	263
RTOR Reduct:	0	0	961	0	0	0	0	0	0	0	0	112
RTOR Vol:	0	1305	281	204	464	0	0	0	0	961	0	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1305	281	204	464	0	0	0	0	961	0	151
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3440	1720	3127	3440	0	0	0	0	1720	0	1720
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.16	0.07	0.13	0.00	0.00	0.00	0.00	0.56	0.00	0.09
Crit Volume:		653		102				0		961		
Crit Moves:		****		****						****		

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Appendix 3 Intersection Level of Service Worksheets (Mitigated)

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Scenario Report

Scenario:	MitAlt1AM
Command:	MitAlt1AM
Volume:	2030AreaPlanAM
Geometry:	MitAlt1
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.954
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	2 0	1 1	0	1 0	0 1	0	2 0	0 1	2
Volume Module:												
Base Vol:	10	1048	108	1861	867	28	76	12	28	224	3	1252
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1048	108	1861	867	28	76	12	28	224	3	1252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1048	108	1861	867	28	76	12	28	224	3	1252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1048	108	1861	867	28	76	12	28	224	3	1252
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	1024
RTOR Vol:	10	1048	108	1861	867	28	76	12	28	224	3	228
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1048	108	1861	867	28	76	12	28	224	3	228
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.87
Lanes:	1.00	2.72	0.28	2.00	1.94	0.06	1.00	0.30	0.70	2.00	0.04	2.96
Final Sat.:	1650	4488	462	3000	3197	103	1650	495	1155	3000	64	4251
Capacity Analysis Module:												
Vol/Sat:	0.01	0.23	0.23	0.62	0.27	0.27	0.05	0.02	0.02	0.07	0.05	0.05
Crit Volume:		385			931			76				77
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec): 100 Critical Vol./Cap.(X): 1.186
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1	0 0	1	0	1 0 0	0	1	0 1	0	2	0 0
Volume Module:												
Base Vol:	644	87	704	9	61	0	0	253	441	1660	1018	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	644	87	704	9	61	0	0	253	441	1660	1018	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	644	87	704	9	61	0	0	253	441	1660	1018	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	644	87	704	9	61	0	0	253	441	1660	1018	25
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	644	87	704	9	61	0	0	253	441	1660	1018	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	644	87	704	9	61	0	0	253	441	1660	1018	25
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.76	0.24	1.00	0.13	0.87	0.00	0.00	1.00	1.00	2.00	0.98	0.02
Final Sat.:	2643	393	1650	212	1438	0	0	1650	1650	3000	1610	40
Capacity Analysis Module:												
Vol/Sat:	0.24	0.22	0.43	0.04	0.04	0.00	0.00	0.15	0.27	0.55	0.63	0.63
Crit Volume:	366			70			441			1043		
Crit Moves:	****			****			****			****		

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1190 Willow Pass Rd & SR-4 WB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.830
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 134 Level Of Service: D

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 0 0	0	0	3 0 1	0	0	0 0 0	2	0	1! 0 1
Volume Module:												
Base Vol:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	305	227	0	0	1073	1099	0	0	0	1403	52	1207
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	0.91
Lanes:	1.00	2.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	2.11	0.08	1.81
Final Sat.:	1720	3440	0	0	5160	1720	0	0	0	3155	134	2836
Capacity Analysis Module:												
Vol/Sat:	0.18	0.07	0.00	0.00	0.21	0.64	0.00	0.00	0.00	0.44	0.39	0.43
Crit Volume:	305			358			0			665		
Crit Moves:	****			****						****		

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1200 Willow Pass Rd & SR-4 EB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.850
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 124 Level Of Service: D

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	2	0	2 0 0	0	1	0 0 1	0	0	0 0 0
Volume Module:												
Base Vol:	0	433	336	612	1891	0	146	28	516	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	433	336	612	1891	0	146	28	516	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	433	336	612	1891	0	146	28	516	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	433	336	612	1891	0	146	28	516	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	433	336	612	1891	0	146	28	516	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	433	336	612	1891	0	146	28	516	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	0.00	0.84	0.16	1.00	0.00	0.00	0.00
Final Sat.:	0	3440	1720	3127	3440	0	1443	277	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.13	0.20	0.20	0.55	0.00	0.10	0.10	0.30	0.00	0.00	0.00
Crit Volume:	0				945				516		0	
Crit Moves:	****				****				****			

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1210 Willow Pass Rd & Avila Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.028
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Willow Pass Rd						Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 1 0	1	0	2 0 1	1	0	1 1 0	1	0	1 1 0
Volume Module:												
Base Vol:	192	706	109	11	1773	781	77	144	21	98	1067	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	192	706	109	11	1773	781	77	144	21	98	1067	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	192	706	109	11	1773	781	77	144	21	98	1067	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	192	706	109	11	1773	781	77	144	21	98	1067	13
RTOR Reduct:	0	0	0	0	0	77	0	0	0	0	0	0
RTOR Vol:	192	706	109	11	1773	704	77	144	21	98	1067	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	192	706	109	11	1773	704	77	144	21	98	1067	13
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.73	0.27	1.00	2.00	1.00	1.00	1.75	0.25	1.00	1.98	0.02
Final Sat.:	1650	2859	441	1650	3300	1650	1650	2880	420	1650	3260	40
Capacity Analysis Module:												
Vol/Sat:	0.12	0.25	0.25	0.01	0.54	0.43	0.05	0.05	0.05	0.06	0.33	0.33
Crit Volume:	192				886		77					540
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	0.929
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 0	0	0 3	0 1	2	0 0	0 1	0	1 0	0 1
Volume Module:												
Base Vol:	879	669	0	0	2045	823	286	0	626	50	160	130
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	879	669	0	0	2045	823	286	0	626	50	160	130
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	879	669	0	0	2045	823	286	0	626	50	160	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	879	669	0	0	2045	823	286	0	626	50	160	130
RTOR Reduct:	0	0	0	0	0	157	0	0	483	0	0	0
RTOR Vol:	879	669	0	0	2045	666	286	0	143	50	160	130
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	879	669	0	0	2045	666	286	0	143	50	160	130
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	1.00	0.24	0.76	1.00
Final Sat.:	3000	3300	0	0	4950	1650	3000	0	1650	393	1257	1650
Capacity Analysis Module:												
Vol/Sat:	0.29	0.20	0.00	0.00	0.41	0.40	0.10	0.00	0.09	0.13	0.13	0.08
Crit Volume:	440				682		143				210	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.844
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	93	Level Of Service:	D

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 0	0	0 2	0 0	1	0 1!	0 2	0	0 0	0 0
Volume Module:												
Base Vol:	0	3443	0	0	369	0	253	0	795	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3443	0	0	369	0	253	0	795	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3443	0	0	369	0	253	0	795	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3443	0	0	369	0	253	0	795	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	3443	0	0	369	0	253	0	795	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3443	0	0	369	0	253	0	795	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.87	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	1563	0	4489	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.67	0.00	0.00	0.11	0.00	0.16	0.00	0.18	0.00	0.00	0.00
Crit Volume:		1148			0				265		0	
Crit Moves:		****		****					****			

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec):	100	Critical Vol./Cap.(X):	0.704
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Ovl			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	1	0	2 0 1	1	1	0 0 2	0	0	0 0 1
Volume Module:												
Base Vol:	0	1033	158	144	627	331	650	141	594	0	0	210
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1033	158	144	627	331	650	141	594	0	0	210
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1033	158	144	627	331	650	141	594	0	0	210
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1033	158	144	627	331	650	141	594	0	0	210
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	144
RTOR Vol:	0	1033	158	144	627	331	650	141	594	0	0	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1033	158	144	627	331	650	141	594	0	0	66
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	1.00	1.64	0.36	2.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	1650	3300	1650	2465	588	3000	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.10	0.09	0.19	0.20	0.26	0.24	0.20	0.00	0.00	0.04
Crit Volume:		517			144			395				66
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.788
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	107	Level Of Service:	C

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 0 1	2	0	2 0 1	1	0	2 0 1	1	0	2 0 1
Volume Module:												
Base Vol:	174	340	178	133	439	110	243	1482	227	165	438	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	174	340	178	133	439	110	243	1482	227	165	438	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	174	340	178	133	439	110	243	1482	227	165	438	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	174	340	178	133	439	110	243	1482	227	165	438	75
RTOR Reduct:	0	0	165	0	0	110	0	0	174	0	0	73
RTOR Vol:	174	340	13	133	439	0	243	1482	53	165	438	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	174	340	13	133	439	0	243	1482	53	165	438	2
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.10	0.01	0.04	0.13	0.00	0.15	0.45	0.03	0.10	0.13	0.00
Crit Volume:	174				220			741		165		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1280 Kirker Pass Rd & James Donlon Blvd [Future extension of James

Cycle (sec):	100	Critical Vol./Cap.(X):	0.864
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	D

Street Name:	Kirker Pass Rd							James Donlon Blvd							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Protected					Protected					Protected				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0			0	0	0			0	0	0			0	0	0		
Y+R:	4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0			4.0	4.0	4.0		
Lanes:	0	0	2	0	1	2	0	2	0	0	0	0	0	0	0	1	0	1!	0	0
Volume Module:																				
Base Vol:	0	367	1100			297	1562	0			0	0	0			0	1206	0		77
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	0	367	1100			297	1562	0			0	0	0			0	1206	0		77
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	0	367	1100			297	1562	0			0	0	0			0	1206	0		77
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		0
Reduced Vol:	0	367	1100			297	1562	0			0	0	0			0	1206	0		77
RTOR Reduct:	0	0	663			0	0	0			0	0	0			0	0	0		0
RTOR Vol:	0	367	437			297	1562	0			0	0	0			0	1206	0		77
PCE Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
FinalVolume:	0	367	437			297	1562	0			0	0	0			0	1206	0		77
Saturation Flow Module:																				
Sat/Lane:	1720	1720	1720			1720	1720	1720			1720	1720	1720			1720	1720	1720		
Adjustment:	1.00	1.00	1.00			0.91	1.00	1.00			1.00	1.00	1.00			0.91	1.00	1.00		
Lanes:	0.00	2.00	1.00			2.00	2.00	0.00			0.00	0.00	0.00			1.88	0.00	0.12		
Final Sat.:	0	3440	1720			3127	3440	0			0	0	0			2939	0	206		
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.11	0.25			0.09	0.45	0.00			0.00	0.00	0.00			0.41	0.00	0.37		
Crit Volume:		184					781						0				641			
Crit Moves:							****										****			

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Scenario Report

Scenario:	MitAlt1PM
Command:	MitAlt1PM
Volume:	2030AreaPlanPM
Geometry:	MitAlt1
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.962
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	2 0	1 1	0	1 0	0 1	0	2 0	0 1	2
Volume Module:												
Base Vol:	20	1074	123	1176	1082	78	76	6	12	95	11	1852
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	1074	123	1176	1082	78	76	6	12	95	11	1852
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	1074	123	1176	1082	78	76	6	12	95	11	1852
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	1074	123	1176	1082	78	76	6	12	95	11	1852
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	647
RTOR Vol:	20	1074	123	1176	1082	78	76	6	12	95	11	1205
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	1074	123	1176	1082	78	76	6	12	95	11	1205
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.87
Lanes:	1.00	2.69	0.31	2.00	1.87	0.13	1.00	0.33	0.67	2.00	0.03	2.97
Final Sat.:	1650	4441	509	3000	3078	222	1650	550	1100	3000	45	4268
Capacity Analysis Module:												
Vol/Sat:	0.01	0.24	0.24	0.39	0.35	0.35	0.05	0.01	0.01	0.03	0.25	0.28
Crit Volume:		399			588			76				405
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec):	100	Critical Vol./Cap.(X):	0.835
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	138	Level Of Service:	D

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1	0 0 1	0	1	0 0 0	0	1	0 1 0	2	0	0 1 0
Volume Module:												
Base Vol:	753	44	1073	19	99	0	0	905	478	237	46	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	753	44	1073	19	99	0	0	905	478	237	46	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	753	44	1073	19	99	0	0	905	478	237	46	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	753	44	1073	19	99	0	0	905	478	237	46	7
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	753	44	1073	19	99	0	0	905	478	237	46	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	753	44	1073	19	99	0	0	905	478	237	46	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00
Lanes:	1.89	0.11	1.00	0.16	0.84	0.00	0.00	1.31	0.69	2.00	0.87	0.13
Final Sat.:	2834	182	1650	266	1384	0	0	2159	1141	3000	1432	218
Capacity Analysis Module:												
Vol/Sat:	0.27	0.24	0.65	0.07	0.07	0.00	0.00	0.42	0.42	0.08	0.03	0.03
Crit Volume:	399			118					692	119		
Crit Moves:	****			****					****	****		

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1190 Willow Pass Rd & SR-4 WB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.582
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	A

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 0 0	0	0	3 0 1	0	0	0 0 0	2	0	1! 0 1
Volume Module:												
Base Vol:	205	1240	0	0	550	255	0	0	0	691	4	631
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	1240	0	0	550	255	0	0	0	691	4	631
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	205	1240	0	0	550	255	0	0	0	691	4	631
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	205	1240	0	0	550	255	0	0	0	691	4	631
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	205	1240	0	0	550	255	0	0	0	691	4	631
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	205	1240	0	0	550	255	0	0	0	691	4	631
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	0.91
Lanes:	1.00	2.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	2.09	0.01	1.90
Final Sat.:	1720	3440	0	0	5160	1720	0	0	0	3119	21	2976
Capacity Analysis Module:												
Vol/Sat:	0.12	0.36	0.00	0.00	0.11	0.15	0.00	0.00	0.00	0.22	0.19	0.21
Crit Volume:	620			0					0	332		
Crit Moves:	****			****						****		

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1200 Willow Pass Rd & SR-4 EB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.789
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	88	Level Of Service:	C

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.0	0 1.0	2.0	0 2.0	0 0.0	0	1.0	0 0 1.0	0	0 0.0	0 0.0
Volume Module:												
Base Vol:	0	1194	859	651	599	0	394	8	211	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1194	859	651	599	0	394	8	211	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1194	859	651	599	0	394	8	211	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1194	859	651	599	0	394	8	211	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1194	859	651	599	0	394	8	211	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1194	859	651	599	0	394	8	211	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	2.00	2.00	0.00	0.98	0.02	1.00	0.00	0.00	0.00
Final Sat.:	0	3440	1720	3127	3440	0	1686	34	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.50	0.21	0.17	0.00	0.23	0.23	0.12	0.00	0.00	0.00
Crit Volume:		597			326			402			0	
Crit Moves:		****			****			****				

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1210 Willow Pass Rd & Avila Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.023
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	0	1.0	1.0	0
Volume Module:												
Base Vol:	18	1277	187	11	578	133	769	870	101	459	221	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	1277	187	11	578	133	769	870	101	459	221	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	18	1277	187	11	578	133	769	870	101	459	221	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	18	1277	187	11	578	133	769	870	101	459	221	15
RTOR Reduct:	0	0	0	0	0	133	0	0	0	0	0	0
RTOR Vol:	18	1277	187	11	578	0	769	870	101	459	221	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	18	1277	187	11	578	0	769	870	101	459	221	15
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	2.00	1.00	1.00	1.79	0.21	1.00	1.87	0.13
Final Sat.:	1650	2878	422	1650	3300	1650	1650	2957	343	1650	3090	210
Capacity Analysis Module:												
Vol/Sat:	0.01	0.44	0.44	0.01	0.18	0.00	0.47	0.29	0.29	0.28	0.07	0.07
Crit Volume:		732		11				486		459		
Crit Moves:		****		****				****		****		

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	0.712
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	79	Level Of Service:	C

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 0	0	0 3	0 1	2	0 0	0 1	0	1 0	0 1
Volume Module:												
Base Vol:	134	926	0	0	691	255	1060	0	529	47	59	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	926	0	0	691	255	1060	0	529	47	59	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	926	0	0	691	255	1060	0	529	47	59	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	926	0	0	691	255	1060	0	529	47	59	129
RTOR Reduct:	0	0	0	0	0	255	0	0	74	0	0	0
RTOR Vol:	134	926	0	0	691	0	1060	0	455	47	59	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	926	0	0	691	0	1060	0	455	47	59	129
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	1.00	0.44	0.56	1.00
Final Sat.:	3000	3300	0	0	4950	1650	3000	0	1650	732	918	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.28	0.00	0.00	0.14	0.00	0.35	0.00	0.28	0.06	0.06	0.08
Crit Volume:	463			0			530					129
Crit Moves:	****			****			****					****

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.807
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	75	Level Of Service:	D

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 0	0	0 2	0 0	1	0 1!	0 2	0	0 0	0 0
Volume Module:												
Base Vol:	0	1388	0	0	254	0	909	0	2314	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1388	0	0	254	0	909	0	2314	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1388	0	0	254	0	909	0	2314	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1388	0	0	254	0	909	0	2314	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1388	0	0	254	0	909	0	2314	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1388	0	0	254	0	909	0	2314	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.87	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	1.13	0.00	2.87	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	1764	0	4297	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.00	0.00	0.07	0.00	0.52	0.00	0.54	0.00	0.00	0.00
Crit Volume:	463			0					806		0	
Crit Moves:	****			****					****			

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec):	100	Critical Vol./Cap.(X):	1.107
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Ovl			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.0	0 1.0	1.0	0 2.0	0 1.0	1.0	1 0.0	0 2.0	0	0 0.0	0 1.0
Volume Module:												
Base Vol:	0	849	92	85	1104	304	493	254	1607	0	0	949
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	849	92	85	1104	304	493	254	1607	0	0	949
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	849	92	85	1104	304	493	254	1607	0	0	949
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	849	92	85	1104	304	493	254	1607	0	0	949
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	85
RTOR Vol:	0	849	92	85	1104	304	493	254	1607	0	0	864
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	849	92	85	1104	304	493	254	1607	0	0	864
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	1.00	1.32	0.68	2.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	1650	3300	1650	1980	1122	3000	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.06	0.05	0.33	0.18	0.25	0.23	0.54	0.00	0.00	0.52
Crit Volume:	0				552		373					864
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.812
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	121	Level Of Service:	D

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2.0	0 1.0	2.0	0 2.0	0 1.0	1.0	0 2.0	0 1.0	1.0	0 2.0	0 1.0
Volume Module:												
Base Vol:	104	665	161	519	1087	274	293	1049	205	168	472	269
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	665	161	519	1087	274	293	1049	205	168	472	269
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	665	161	519	1087	274	293	1049	205	168	472	269
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	665	161	519	1087	274	293	1049	205	168	472	269
RTOR Reduct:	0	0	161	0	0	274	0	0	104	0	0	269
RTOR Vol:	104	665	0	519	1087	0	293	1049	101	168	472	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	665	0	519	1087	0	293	1049	101	168	472	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.06	0.20	0.00	0.17	0.33	0.00	0.18	0.32	0.06	0.10	0.14	0.00
Crit Volume:	104				543			525		168		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Alt 1 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1280 Kirker Pass Rd & James Donlon Blvd [Future extension of James

Cycle (sec):	100	Critical Vol./Cap.(X):	0.871
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	144	Level Of Service:	D

Street Name:	Kirker Pass Rd							James Donlon Blvd							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Permitted				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	2	0 1	2	0	2	0 0	0	0	0	0 0	1	0	1!	0 0
Volume Module:																
Base Vol:	0	1305	1235		211	464	0		0	0	0		957	0	268	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	1305	1235		211	464	0		0	0	0		957	0	268	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1305	1235		211	464	0		0	0	0		957	0	268	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1305	1235		211	464	0		0	0	0		957	0	268	
RTOR Reduct:	0	0	526		0	0	0		0	0	0		0	0	0	
RTOR Vol:	0	1305	709		211	464	0		0	0	0		957	0	268	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1305	709		211	464	0		0	0	0		957	0	268	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00	
Lanes:	0.00	2.00	1.00		2.00	2.00	0.00		0.00	0.00	0.00		1.56	0.00	0.44	
Final Sat.:	0	3440	1720		3127	3440	0		0	0	0		2443	0	753	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.38	0.41		0.07	0.13	0.00		0.00	0.00	0.00		0.39	0.00	0.36	
Crit Volume:			709		106						0		613			
Crit Moves:			****		****								****			

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Scenario Report

Scenario:	MitAlt2AM
Command:	MitAlt2AM
Volume:	CVAM
Geometry:	MitAlt2
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.960
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	2 0	1 1	0	1 0	0 1	0	2 0	0 1	2
Volume Module:												
Base Vol:	10	1088	108	1749	757	28	76	12	28	242	3	1518
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1088	108	1749	757	28	76	12	28	242	3	1518
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	1088	108	1749	757	28	76	12	28	242	3	1518
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1088	108	1749	757	28	76	12	28	242	3	1518
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	962
RTOR Vol:	10	1088	108	1749	757	28	76	12	28	242	3	556
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1088	108	1749	757	28	76	12	28	242	3	556
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.87
Lanes:	1.00	2.73	0.27	2.00	1.93	0.07	1.00	0.30	0.70	2.00	0.02	2.98
Final Sat.:	1720	4694	466	3127	3317	123	1720	516	1204	3127	28	4465
Capacity Analysis Module:												
Vol/Sat:	0.01	0.23	0.23	0.56	0.23	0.23	0.04	0.02	0.02	0.08	0.11	0.12
Crit Volume:		399			874			76				186
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec): 100 Critical Vol./Cap.(X): 1.391
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1	0 0 1	0	1	0 0 0	0	1	0 0 2	2	0	0 1 0
Volume Module:												
Base Vol:	2039	87	316	9	61	0	0	20	162	1884	786	25
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2039	87	316	9	61	0	0	20	162	1884	786	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2039	87	316	9	61	0	0	20	162	1884	786	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2039	87	316	9	61	0	0	20	162	1884	786	25
RTOR Reduct:	0	0	0	0	0	0	0	0	162	0	0	0
RTOR Vol:	2039	87	316	9	61	0	0	20	0	1884	786	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2039	87	316	9	61	0	0	20	0	1884	786	25
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00
Lanes:	1.92	0.08	1.00	0.13	0.87	0.00	0.00	1.00	2.00	2.00	0.97	0.03
Final Sat.:	2877	135	1650	212	1438	0	0	1650	3000	3000	1599	51
Capacity Analysis Module:												
Vol/Sat:	0.71	0.64	0.19	0.04	0.04	0.00	0.00	0.01	0.00	0.63	0.49	0.49
Crit Volume:	1063			70			20			942		
Crit Moves:	****			****			****			****		

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1190 Willow Pass Rd & SR-4 WB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.838
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 141 Level Of Service: D

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 0 0	0	0	3 0 1	0	0	0 0 0	2	0	1! 0 1
Volume Module:												
Base Vol:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	305	1412	0	0	789	1327	0	0	0	1477	56	1028
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	0.91
Lanes:	1.00	2.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	2.31	0.09	1.60
Final Sat.:	1720	3440	0	0	5160	1720	0	0	0	3452	150	2510
Capacity Analysis Module:												
Vol/Sat:	0.18	0.41	0.00	0.00	0.15	0.77	0.00	0.00	0.00	0.43	0.37	0.41
Crit Volume:	706			0			0			640		
Crit Moves:	****			****						****		

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1200 Willow Pass Rd & SR-4 EB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.764
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 79 Level Of Service: C

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.00	1.00	1.00	0 3.00	0.00	1.98	0.02	1.00	0.00	0.00	0.00
Volume Module:												
Base Vol:	0	548	519	364	1925	0	1213	15	463	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	548	519	364	1925	0	1213	15	463	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	548	519	364	1925	0	1213	15	463	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	548	519	364	1925	0	1213	15	463	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	548	519	364	1925	0	1213	15	463	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	548	519	364	1925	0	1213	15	463	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	3.00	0.00	1.98	0.02	1.00	0.00	0.00	0.00
Final Sat.:	0	3440	1720	1720	5160	0	3089	42	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.30	0.21	0.37	0.00	0.39	0.36	0.27	0.00	0.00	0.00
Crit Volume:		274			364			614			0	
Crit Moves:		****			****			****				

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1210 Willow Pass Rd & Avila Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.014
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: F

Street Name:	Willow Pass Rd						Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1.00	1.00	1.00	0 2.00	1.00	2.00	0 1.00	1.00	1.00	0 1.00	1.00
Volume Module:												
Base Vol:	129	790	148	11	1934	553	307	483	52	16	1080	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	790	148	11	1934	553	307	483	52	16	1080	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	129	790	148	11	1934	553	307	483	52	16	1080	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	129	790	148	11	1934	553	307	483	52	16	1080	13
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	129	790	148	11	1934	553	307	483	52	16	1080	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	790	148	11	1934	553	307	483	52	16	1080	13
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.68	0.32	1.00	2.33	0.67	2.00	1.81	0.19	1.00	1.98	0.02
Final Sat.:	1650	2779	521	1650	3849	1101	3000	2979	321	1650	3261	39
Capacity Analysis Module:												
Vol/Sat:	0.08	0.28	0.28	0.01	0.50	0.50	0.10	0.16	0.16	0.01	0.33	0.33
Crit Volume:	129				829		154					547
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	1.000
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 0	0	0 3	0 1	2	0 0	0 1	0	1 0	0 1
Volume Module:												
Base Vol:	1049	638	0	0	2316	616	95	0	393	50	199	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1049	638	0	0	2316	616	95	0	393	50	199	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1049	638	0	0	2316	616	95	0	393	50	199	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1049	638	0	0	2316	616	95	0	393	50	199	129
RTOR Reduct:	0	0	0	0	0	52	0	0	393	0	0	0
RTOR Vol:	1049	638	0	0	2316	564	95	0	0	50	199	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1049	638	0	0	2316	564	95	0	0	50	199	129
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	1.00	0.20	0.80	1.00
Final Sat.:	3000	3300	0	0	4950	1650	3000	0	1650	331	1319	1650
Capacity Analysis Module:												
Vol/Sat:	0.35	0.19	0.00	0.00	0.47	0.34	0.03	0.00	0.00	0.15	0.15	0.08
Crit Volume:	525				772		48				249	
Crit Moves:	****				****		****				****	

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.845
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	93	Level Of Service:	D

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 0	0	0 2	0 0	1	0 1!	0 2	0	0 0	0 0
Volume Module:												
Base Vol:	0	3462	0	0	357	0	423	0	617	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3462	0	0	357	0	423	0	617	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3462	0	0	357	0	423	0	617	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3462	0	0	357	0	423	0	617	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	3462	0	0	357	0	423	0	617	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3462	0	0	357	0	423	0	617	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.87	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	1.63	0.00	2.37	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	2544	0	3551	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.67	0.00	0.00	0.10	0.00	0.17	0.00	0.17	0.00	0.00	0.00
Crit Volume:		1154			0				260		0	
Crit Moves:		****		****					****			

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.754
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 76 Level Of Service: C

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Include			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2	0 1	1	0 2	0 1	1	1 0	0 2	0	0 0	0 1
Volume Module:												
Base Vol:	0	1011	158	145	622	330	739	141	445	0	0	255
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1011	158	145	622	330	739	141	445	0	0	255
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1011	158	145	622	330	739	141	445	0	0	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1011	158	145	622	330	739	141	445	0	0	255
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	145
RTOR Vol:	0	1011	158	145	622	330	739	141	445	0	0	110
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1011	158	145	622	330	739	141	445	0	0	110
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	1.00	1.68	0.32	2.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	1650	3300	1650	2519	529	3000	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.10	0.09	0.19	0.20	0.29	0.27	0.15	0.00	0.00	0.07
Crit Volume:		506			145			440				110
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.802
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 115 Level Of Service: D

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	178	389	187	145	440	117	273	1522	227	165	420	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	389	187	145	440	117	273	1522	227	165	420	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	389	187	145	440	117	273	1522	227	165	420	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	389	187	145	440	117	273	1522	227	165	420	81
RTOR Reduct:	0	0	165	0	0	117	0	0	178	0	0	80
RTOR Vol:	178	389	22	145	440	0	273	1522	49	165	420	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	389	22	145	440	0	273	1522	49	165	420	1
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.12	0.01	0.05	0.13	0.00	0.17	0.46	0.03	0.10	0.13	0.00
Crit Volume:	178				220			761		165		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1280 Kirker Pass Rd & James Donlon Blvd [Future extension of James

Cycle (sec):	100	Critical Vol./Cap.(X):	0.866
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	171	Level Of Service:	D

Street Name:	Kirker Pass Rd							James Donlon Blvd							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	2	0 1	2	0	2	0 0	0	0	0	0 0	1	0	1!	0 0
Volume Module:																
Base Vol:	0	367	1107		288	1562	0		0	0	0		1215	0	74	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	367	1107		288	1562	0		0	0	0		1215	0	74	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	367	1107		288	1562	0		0	0	0		1215	0	74	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	367	1107		288	1562	0		0	0	0		1215	0	74	
RTOR Reduct:	0	0	668		0	0	0		0	0	0		0	0	0	
RTOR Vol:	0	367	439		288	1562	0		0	0	0		1215	0	74	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	367	439		288	1562	0		0	0	0		1215	0	74	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00	
Lanes:	0.00	2.00	1.00		2.00	2.00	0.00		0.00	0.00	0.00		1.89	0.00	0.11	
Final Sat.:	0	3440	1720		3127	3440	0		0	0	0		2947	0	197	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.11	0.26		0.09	0.45	0.00		0.00	0.00	0.00		0.41	0.00	0.37	
Crit Volume:	0					781				0			645			
Crit Moves:	****					****							****			

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Scenario Report

Scenario:	MitAlt2PM
Command:	MitAlt2PM
Volume:	CVPM
Geometry:	MitAlt2
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Project
Routes:	Default Route
Configuration:	Default Configuration

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1010 Port Chicago Hwy & Panoramic Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.923
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Port Chicago Hwy						Panoramic Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 1	0	2 0	1 1	0	1 0	0 1	0	2 0	0 1	2
Volume Module:												
Base Vol:	20	983	162	1359	1148	78	76	6	12	118	11	1736
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	983	162	1359	1148	78	76	6	12	118	11	1736
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	983	162	1359	1148	78	76	6	12	118	11	1736
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	20	983	162	1359	1148	78	76	6	12	118	11	1736
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	747
RTOR Vol:	20	983	162	1359	1148	78	76	6	12	118	11	989
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	20	983	162	1359	1148	78	76	6	12	118	11	989
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.87
Lanes:	1.00	2.58	0.42	2.00	1.87	0.13	1.00	0.33	0.67	2.00	0.03	2.97
Final Sat.:	1720	4430	730	3127	3221	219	1720	573	1147	3127	57	4440
Capacity Analysis Module:												
Vol/Sat:	0.01	0.22	0.22	0.43	0.36	0.36	0.04	0.01	0.01	0.04	0.19	0.22
Crit Volume:		382			680			76				333
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1180 Willow Pass Rd & Evora Rd (West) [At Project Site]

Cycle (sec):	100	Critical Vol./Cap.(X):	0.815
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	124	Level Of Service:	D

Street Name:	Willow Pass Rd						Evora Rd (West)					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	1	0 0 1	0	1	0 0 0	0	1	0 0 2	2	0	0 1 0
Volume Module:												
Base Vol:	226	46	1287	19	99	0	0	798	1847	237	18	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	226	46	1287	19	99	0	0	798	1847	237	18	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	226	46	1287	19	99	0	0	798	1847	237	18	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	46	1287	19	99	0	0	798	1847	237	18	7
RTOR Reduct:	0	0	0	0	0	0	0	0	124	0	0	0
RTOR Vol:	226	46	1287	19	99	0	0	798	1723	237	18	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	226	46	1287	19	99	0	0	798	1723	237	18	7
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00
Lanes:	1.66	0.34	1.00	0.16	0.84	0.00	0.00	1.00	2.00	2.00	0.72	0.28
Final Sat.:	2492	558	1650	266	1384	0	0	1650	3000	3000	1188	462
Capacity Analysis Module:												
Vol/Sat:	0.09	0.08	0.78	0.07	0.07	0.00	0.00	0.48	0.57	0.08	0.02	0.02
Crit Volume:	136			118					861	119		
Crit Moves:	****			****					****	****		

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1190 Willow Pass Rd & SR-4 WB ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.565
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	A

Street Name:	Willow Pass Rd						SR-4 WB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 0 0	0	0	3 0 1	0	0	0 0 0	2	0	1! 0 1
Volume Module:												
Base Vol:	435	1200	0	0	624	1441	0	0	0	764	19	361
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	435	1200	0	0	624	1441	0	0	0	764	19	361
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	435	1200	0	0	624	1441	0	0	0	764	19	361
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	435	1200	0	0	624	1441	0	0	0	764	19	361
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	435	1200	0	0	624	1441	0	0	0	764	19	361
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	435	1200	0	0	624	1441	0	0	0	764	19	361
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	0.91
Lanes:	1.00	2.00	0.00	0.00	3.00	1.00	0.00	0.00	0.00	2.67	0.07	1.26
Final Sat.:	1720	3440	0	0	5160	1720	0	0	0	3997	114	1973
Capacity Analysis Module:												
Vol/Sat:	0.25	0.35	0.00	0.00	0.12	0.84	0.00	0.00	0.00	0.19	0.17	0.18
Crit Volume:	435				208			0		286		
Crit Moves:	****				****					****		

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1200 Willow Pass Rd & SR-4 EB ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.782
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 85 Level Of Service: C

Street Name:	Willow Pass Rd						SR-4 EB ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	1	0	3 0 0	1	1	0 0 1	0	0	0 0 0
Volume Module:												
Base Vol:	0	1133	893	501	896	0	497	8	211	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1133	893	501	896	0	497	8	211	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1133	893	501	896	0	497	8	211	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1133	893	501	896	0	497	8	211	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1133	893	501	896	0	497	8	211	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1133	893	501	896	0	497	8	211	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	3.00	0.00	1.97	0.03	1.00	0.00	0.00	0.00
Final Sat.:	0	3440	1720	1720	5160	0	3077	54	1720	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.33	0.52	0.29	0.17	0.00	0.16	0.15	0.12	0.00	0.00	0.00
Crit Volume:		567		501			253				0	
Crit Moves:		****		****			****					

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1210 Willow Pass Rd & Avila Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.894
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 175 Level Of Service: D

Street Name:	Willow Pass Rd						Avila Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 1 0	1	0	2 1 0	2	0	1 1 0	1	0	1 1 0
Volume Module:												
Base Vol:	37	1292	233	11	835	263	722	762	79	236	593	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	37	1292	233	11	835	263	722	762	79	236	593	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	37	1292	233	11	835	263	722	762	79	236	593	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	1292	233	11	835	263	722	762	79	236	593	15
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	37	1292	233	11	835	263	722	762	79	236	593	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	1292	233	11	835	263	722	762	79	236	593	15
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.69	0.31	1.00	2.28	0.72	2.00	1.81	0.19	1.00	1.95	0.05
Final Sat.:	1650	2796	504	1650	3764	1186	3000	2990	310	1650	3219	81
Capacity Analysis Module:												
Vol/Sat:	0.02	0.46	0.46	0.01	0.22	0.22	0.24	0.25	0.25	0.14	0.18	0.18
Crit Volume:		763		11			361					304
Crit Moves:		****		****			****					****

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1220 Willow Pass Rd & Evora Rd (East)-SR-4 WB off-ramp [In Pittsbu

Cycle (sec):	100	Critical Vol./Cap.(X):	0.717
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	81	Level Of Service:	C

Street Name:	Willow Pass Rd						Evora Rd (East)-SR-4 WB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 0	0	0 3	0 1	2	0 0	0 1	0	1 0	0 1
Volume Module:												
Base Vol:	135	926	0	0	824	182	1054	0	666	47	59	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	135	926	0	0	824	182	1054	0	666	47	59	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	135	926	0	0	824	182	1054	0	666	47	59	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	135	926	0	0	824	182	1054	0	666	47	59	129
RTOR Reduct:	0	0	0	0	0	182	0	0	74	0	0	0
RTOR Vol:	135	926	0	0	824	0	1054	0	592	47	59	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	135	926	0	0	824	0	1054	0	592	47	59	129
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	0.91	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	3.00	1.00	2.00	0.00	1.00	0.44	0.56	1.00
Final Sat.:	3000	3300	0	0	4950	1650	3000	0	1650	732	918	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.28	0.00	0.00	0.17	0.00	0.35	0.00	0.36	0.06	0.06	0.08
Crit Volume:		463			0				592			129
Crit Moves:		****			****				****			****

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1230 San Marco Blvd-Willow Pass Rd & SR-4 EB off-ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	0.796
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	71	Level Of Service:	C

Street Name:	San Marco Blvd-Willow Pass Rd						SR-4 EB off-ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 0	0	0 2	0 0	1	0 1!	0 2	0	0 0	0 0
Volume Module:												
Base Vol:	0	1352	0	0	250	0	909	0	2287	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1352	0	0	250	0	909	0	2287	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1352	0	0	250	0	909	0	2287	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1352	0	0	250	0	909	0	2287	0	0	0
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Vol:	0	1352	0	0	250	0	909	0	2287	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1352	0	0	250	0	909	0	2287	0	0	0
Saturation Flow Module:												
Sat/Lane:	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720	1720
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.87	1.00	1.00	1.00
Lanes:	0.00	3.00	0.00	0.00	2.00	0.00	1.14	0.00	2.86	0.00	0.00	0.00
Final Sat.:	0	5160	0	0	3440	0	1779	0	4283	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.07	0.00	0.51	0.00	0.53	0.00	0.00	0.00
Crit Volume:		451			0				799		0	
Crit Moves:		****			****				****			

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1260 Bailey Rd & SR-4 EB ramps-BART access

Cycle (sec):	100	Critical Vol./Cap.(X):	1.101
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Bailey Rd						SR-4 EB ramps-BART access					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ignore			Include			AddLane		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2	0 1	1	0 2	0 1	1	1 0	0 2	0	0 0	0 1
Volume Module:												
Base Vol:	0	826	92	85	1096	302	469	254	1584	0	0	956
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	826	92	85	1096	302	469	254	1584	0	0	956
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	826	92	85	1096	302	469	254	1584	0	0	956
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	826	92	85	1096	302	469	254	1584	0	0	956
RTOR Reduct:	0	0	0	0	0	0	0	0	0	0	0	85
RTOR Vol:	0	826	92	85	1096	302	469	254	1584	0	0	871
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	826	92	85	1096	302	469	254	1584	0	0	871
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.91	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	1.00	1.30	0.70	2.00	0.00	0.00	1.00
Final Sat.:	0	3300	1650	1650	3300	1650	1946	1159	3000	0	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.00	0.25	0.06	0.05	0.33	0.18	0.24	0.22	0.53	0.00	0.00	0.53
Crit Volume:	0				548		361					871
Crit Moves:	****				****		****					****

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1270 Railroad Ave & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.825
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Railroad Ave						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	108	665	161	487	1092	295	241	1081	227	166	500	198
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	665	161	487	1092	295	241	1081	227	166	500	198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	108	665	161	487	1092	295	241	1081	227	166	500	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	108	665	161	487	1092	295	241	1081	227	166	500	198
RTOR Reduct:	0	0	161	0	0	241	0	0	108	0	0	198
RTOR Vol:	108	665	0	487	1092	54	241	1081	119	166	500	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	108	665	0	487	1092	54	241	1081	119	166	500	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	3300	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.07	0.20	0.00	0.16	0.33	0.03	0.15	0.33	0.07	0.10	0.15	0.00
Crit Volume:	108				546			541		166		
Crit Moves:	****				****			****		****		

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1280 Kirker Pass Rd & James Donlon Blvd [Future extension of James

Cycle (sec):	100	Critical Vol./Cap.(X):	0.871
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	177	Level Of Service:	D

Street Name:	Kirker Pass Rd							James Donlon Blvd							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	0	2	0	1	2	0	2	0	0	0	0	0	0	0	1	0	1!	0	0
Volume Module:																
Base Vol:	0	1305	1242		204	464	0		0	0	0		961	0	263	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	1305	1242		204	464	0		0	0	0		961	0	263	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1305	1242		204	464	0		0	0	0		961	0	263	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1305	1242		204	464	0		0	0	0		961	0	263	
RTOR Reduct:	0	0	529		0	0	0		0	0	0		0	0	0	
RTOR Vol:	0	1305	713		204	464	0		0	0	0		961	0	263	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1305	713		204	464	0		0	0	0		961	0	263	
Saturation Flow Module:																
Sat/Lane:	1720	1720	1720		1720	1720	1720		1720	1720	1720		1720	1720	1720	
Adjustment:	1.00	1.00	1.00		0.91	1.00	1.00		1.00	1.00	1.00		0.91	1.00	1.00	
Lanes:	0.00	2.00	1.00		2.00	2.00	0.00		0.00	0.00	0.00		1.57	0.00	0.43	
Final Sat.:	0	3440	1720		3127	3440	0		0	0	0		2455	0	739	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.38	0.41		0.07	0.13	0.00		0.00	0.00	0.00		0.39	0.00	0.36	
Crit Volume:			713		102					0			612			
Crit Moves:			****		****								****			

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alt 1 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.845
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	D

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	22	484	216	656	302	394	67	480	18	211	1584	764
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	484	216	656	302	394	67	480	18	211	1584	764
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	484	216	656	302	394	67	480	18	211	1584	764
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	484	216	656	302	394	67	480	18	211	1584	764
RTOR Reduct:	0	0	211	0	0	0	0	0	0	0	0	361
RTOR Vol:	22	484	5	656	302	394	67	480	18	211	1584	403
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	484	5	656	302	394	67	480	18	211	1584	403
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.00	1.00	1.00	1.93	0.07	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	1650	1650	1650	3181	119	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.15	0.00	0.22	0.18	0.24	0.04	0.15	0.15	0.13	0.48	0.24
Crit Volume:		242		328				249			792	
Crit Moves:		****		****							****	

Former NWS Concord TIA
Alternative 2 - AM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.792
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	C

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	15	484	216	554	302	504	121	897	38	211	1520	764
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	484	216	554	302	504	121	897	38	211	1520	764
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	484	216	554	302	504	121	897	38	211	1520	764
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	484	216	554	302	504	121	897	38	211	1520	764
RTOR Reduct:	0	0	211	0	0	0	0	0	0	0	0	305
RTOR Vol:	15	484	5	554	302	504	121	897	38	211	1520	459
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	484	5	554	302	504	121	897	38	211	1520	459
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.00	1.00	1.00	1.92	0.08	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	1650	1650	1650	3166	134	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.15	0.00	0.18	0.18	0.31	0.07	0.28	0.28	0.13	0.46	0.28
Crit Volume:		242		277				468			760	
Crit Moves:		****		****							****	

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1240 San Marco Blvd & W Leland Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.815
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	123	Level Of Service:	D

Street Name:	San Marco Blvd						W Leland Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 1	1 0	1	0 2	0 1
Volume Module:												
Base Vol:	16	142	61	691	232	336	462	1483	21	141	1114	585
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	142	61	691	232	336	462	1483	21	141	1114	585
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	16	142	61	691	232	336	462	1483	21	141	1114	585
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	142	61	691	232	336	462	1483	21	141	1114	585
RTOR Reduct:	0	0	61	0	0	0	0	0	0	0	0	380
RTOR Vol:	16	142	0	691	232	336	462	1483	21	141	1114	205
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	142	0	691	232	336	462	1483	21	141	1114	205
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.00	1.00	1.00	1.97	0.03	1.00	2.00	1.00
Final Sat.:	1650	3300	1650	3000	1650	1650	1650	3254	46	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.00	0.23	0.14	0.20	0.28	0.46	0.46	0.09	0.34	0.12
Crit Volume:		71		346				752		141		
Crit Moves:	****			****				****		****		

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, OAKLAND

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1020 Port Chicago Hwy & Olivera Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.988
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Port Chicago Hwy						Olivera Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	0 1	0	1	0 1	1	0	1 0 1	1	0	0 1 0
Volume Module:												
Base Vol:	148	653	51	259	593	285	230	417	100	35	277	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	148	653	51	259	593	285	230	417	100	35	277	160
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	148	653	51	259	593	285	230	417	100	35	277	160
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	148	653	51	259	593	285	230	417	100	35	277	160
RTOR Reduct:	0	0	0	0	0	230	0	0	100	0	0	0
RTOR Vol:	148	653	51	259	593	55	230	417	0	35	277	160
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	148	653	51	259	593	55	230	417	0	35	277	160
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.93	0.07	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.37
Final Sat.:	1650	1530	120	1650	1650	1650	1650	1650	1650	1650	1046	604
Capacity Analysis Module:												
Vol/Sat:	0.09	0.43	0.43	0.16	0.36	0.03	0.14	0.25	0.00	0.02	0.26	0.26
Crit Volume:		704			259			230				437
Crit Moves:		****			****			****				****

Former NWS Concord TIA
Alternative 2 - PM peak hour
Mitigated

Level Of Service Computation Report
CCTALOS Method (Base Volume Alternative)

Intersection #1030 Farm Bureau Rd & Willow Pass Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.895
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	D

Street Name:	Farm Bureau Rd						Willow Pass Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			AddLane			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0 1	2	0	1 0 1	1	0	1 1 0	1	0	2 0 1
Volume Module:												
Base Vol:	74	352	266	245	376	28	30	1000	96	442	311	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	74	352	266	245	376	28	30	1000	96	442	311	152
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	74	352	266	245	376	28	30	1000	96	442	311	152
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	352	266	245	376	28	30	1000	96	442	311	152
RTOR Reduct:	0	0	266	0	0	28	0	0	0	0	0	135
RTOR Vol:	74	352	0	245	376	0	30	1000	96	442	311	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	352	0	245	376	0	30	1000	96	442	311	17
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.82	0.18	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	3000	1650	1650	1650	3011	289	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.04	0.21	0.00	0.08	0.23	0.00	0.02	0.33	0.33	0.27	0.09	0.01
Crit Volume:		352			123				548	442		
Crit Moves:		****			****				****	****		

Appendix 4 Freeway Ramp Analysis Worksheets

I-680: Willow Pass Rd NB off-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane Off-Ramp (Equation 8)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	4,821	5,437	5,575	7,119	5,627	7,100	5,603	7,088
Ramp Volume:	1,019	1,075	1,000	1,259	1,114	1,299	1,026	1,290
Deceleration Length (ft):	60	60	60	60	60	60	60	60
Adjusted Freeway Volume (Upstream):	5,371	6,058	6,211	7,931	6,269	7,911	6,243	7,897
Adjusted Ramp Volume:	1,135	1,198	1,114	1,403	1,241	1,448	1,143	1,437
Upstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Upstream Freeway V/C:	0.56	0.63	0.65	0.83	0.65	0.82	0.65	0.82
Proportion in lanes 1,2 (Pfd):	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436
V12 (upstream two-lane volume):	2,982	3,317	3,336	4,249	3,433	4,266	3,367	4,254
VR12 (downstream two-lane volume):	4,117	4,515	4,450	5,652	4,674	5,714	4,510	5,691
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	0.68	0.75	0.76	0.97	0.78	0.97	0.77	0.97
Density (pc/mi/ln):	29.36	32.24	32.40	40.25	33.24	40.40	32.67	40.30
Level of Service:	D	D	D	E	D	E	D	E

I-680: Concord Av WB to NB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	4,776	5,386	5,271	6,826	5,096	6,826	5,314	6,839
Ramp Volume:	193	374	-175	302	-13	398	-71	418
Acceleration Length (ft.):	335	335	335	335	335	335	335	335
Adjusted Freeway Volume (Upstream):	5,321	6,001	5,873	7,605	5,678	7,605	5,921	7,619
Adjusted Ramp Volume:	215	417	-195	336	-14	444	-79	466
Downstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Downstream Freeway V/C:	0.58	0.67	0.59	0.83	0.59	0.84	0.61	0.84
Proportion in lanes 1,2 (Pfm):	0.191	0.166	0.242	0.176	0.220	0.162	0.228	0.160
V12 (upstream two-lane volume):	2,128	2,400	2,349	3,042	2,271	3,042	2,368	3,048
VR12 (downstream two-lane volume):	2,343	2,817	2,154	3,378	2,257	3,486	2,289	3,514
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.51	0.61	0.47	0.73	0.49	0.76	0.50	0.76
Density (pc/mi/ln):	21.55	25.16	20.27	29.57	20.99	30.36	21.27	30.57
Level of Service:	C	C	C	D	C	D	C	D

I-680: Willow Pass Rd EB to SB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	4,368	4,693	4,933	5,705	4,965	6,093	4,934	6,080
Ramp Volume:	441	744	617	832	668	833	686	822
Acceleration Length (ft.):	1,225	1,225	1,225	1,225	1,225	1,225	1,225	1,225
Adjusted Freeway Volume (Upstream):	4,867	5,229	5,496	6,356	5,532	6,789	5,497	6,774
Adjusted Ramp Volume:	491	829	687	927	744	928	764	916
Downstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Downstream Freeway V/C:	0.56	0.63	0.64	0.76	0.65	0.80	0.65	0.80
Proportion in lanes 1,2 (Pfm):	0.156	0.114	0.132	0.102	0.125	0.102	0.122	0.103
V12 (upstream two-lane volume):	1,947	2,092	2,198	2,542	2,213	2,716	2,199	2,710
VR12 (downstream two-lane volume):	2,438	2,921	2,885	3,469	2,957	3,644	2,963	3,626
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.53	0.64	0.63	0.75	0.64	0.79	0.64	0.79
Density (pc/mi/ln):	16.58	20.20	19.98	24.43	20.52	25.79	20.55	25.66
Level of Service:	B	C	B	C	C	C	C	C

SR 242: Clayton Rd NB off-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane Off-Ramp (Equation 8)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	3

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	3,120	5,329	3,949	5,128	4,869	5,081	4,881	5,219
Ramp Volume:	859	1,420	1,145	1,642	1,147	1,722	1,111	1,732
Deceleration Length (ft):	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Adjusted Freeway Volume (Upstream):	3,476	5,937	4,400	5,713	5,424	5,661	5,438	5,814
Adjusted Ramp Volume:	957	1,582	1,276	1,829	1,278	1,918	1,238	1,930
Upstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Upstream Freeway V/C:	0.36	0.62	0.46	0.60	0.57	0.59	0.57	0.61
Proportion in lanes 1,2 (Pfd):	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436
V12 (upstream two-lane volume):	2,055	3,481	2,638	3,522	3,086	3,550	3,069	3,623
VR12 (downstream two-lane volume):	3,012	5,063	3,914	5,351	4,364	5,468	4,307	5,553
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	0.47	0.79	0.60	0.80	0.70	0.81	0.70	0.82
Density (pc/mi/ln):	8.43	20.69	13.44	21.04	17.29	21.28	17.15	21.91
Level of Service:	A	C	B	C	B	C	B	C

SR 242: Concord Av EB to NB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	3
Existing Dnstrm Frwy Lanes / Aux. Lanes	3

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	2,261	3,909	3,805	4,338	4,684	4,224	4,882	4,305
Ramp Volume:	633	577	616	375	612	295	626	287
Acceleration Length (ft.):	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Adjusted Freeway Volume (Upstream):	2,519	4,355	4,239	4,833	5,219	4,706	5,439	4,797
Adjusted Ramp Volume:	705	643	686	418	682	329	698	319
Downstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.45	0.69	0.68	0.73	0.82	0.70	0.85	0.71
Proportion in lanes 1,2 (Pfm):	0.620	0.620	0.620	0.620	0.620	0.620	0.620	0.620
V12 (upstream two-lane volume):	1,561	2,698	2,626	2,994	3,233	2,915	3,369	2,972
VR12 (downstream two-lane volume):	2,266	3,341	3,312	3,412	3,915	3,244	4,067	3,291
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.49	0.73	0.72	0.74	0.85	0.71	0.88	0.72
Density (pc/mi/ln):	13.42	21.83	21.59	22.49	26.29	21.22	27.47	21.59
Level of Service:	B	C	C	C	C	C	C	C

SR 242: Clayton Rd SB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	3
Existing Dnstrm Frwy Lanes / Aux. Lanes	3

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	4,180	2,631	4,412	3,159	4,287	3,562	4,376	3,696
Ramp Volume:	768	900	971	1,003	984	1,025	1,028	1,002
Acceleration Length (ft.):	285	285	285	285	285	285	285	285
Adjusted Freeway Volume (Upstream):	4,657	2,931	4,916	3,520	4,776	3,969	4,876	4,118
Adjusted Ramp Volume:	856	1,003	1,082	1,117	1,096	1,142	1,145	1,116
Downstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.77	0.55	0.83	0.64	0.82	0.71	0.84	0.73
Proportion in lanes 1,2 (Pfm):	0.585	0.585	0.585	0.585	0.585	0.585	0.585	0.585
V12 (upstream two-lane volume):	2,727	1,716	2,878	2,061	2,796	2,324	2,855	2,411
VR12 (downstream two-lane volume):	3,583	2,719	3,960	3,178	3,892	3,466	4,000	3,527
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.78	0.59	0.86	0.69	0.85	0.75	0.87	0.77
Density (pc/mi/ln):	31.24	24.43	34.08	27.96	33.54	30.20	34.36	30.69
Level of Service:	D	C	D	C	D	D	D	D

SR 4: Port Chicago EB off-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane Off-Ramp (Equation 8)

Existing Upstrm Frwy Lanes / Aux. Lanes	2
Existing Dnstrm Frwy Lanes / Aux. Lanes	2

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	988	2,895	2,156	6,233	2,742	5,652	3,109	6,106
Ramp Volume:	620	380	1,094	1,398	1,568	1,092	1,427	1,349
Deceleration Length (ft):	335	335	335	335	335	335	335	335
Adjusted Freeway Volume (Upstream):	1,101	3,225	2,402	6,944	3,054	6,297	3,464	6,803
Adjusted Ramp Volume:	691	423	1,219	1,558	1,747	1,217	1,590	1,503
Upstream Freeway Capacity:	4,800	4,800	4,800	4,800	4,800	4,800	4,800	4,800
Upstream Freeway V/C:	0.23	0.67	0.50	1.45	0.64	1.31	0.72	1.42
Proportion in lanes 1,2 (Pfd):	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
V12 (upstream two-lane volume):	1,101	3,225	2,402	6,944	3,054	6,297	3,464	6,803
VR12 (downstream two-lane volume):	1,792	3,648	3,621	8,502	4,801	7,514	5,054	8,306
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	0.25	0.73	0.55	1.58	0.69	1.43	0.79	1.55
Density (pc/mi/ln):	10.71	28.97	21.89	60.96	27.50	55.39	31.03	59.74
Level of Service:	B	D	C	F	C	F	D	F

SR 4: Port Chicago EB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	2,150	6,341	3,570	9,018	4,003	8,830	4,770	9,116
Ramp Volume:	136	688	278	1,448	1,182	1,388	1,409	1,486
Acceleration Length (ft.):	225	225	225	225	225	225	225	225
Adjusted Freeway Volume (Upstream):	2,395	7,065	3,977	10,047	4,460	9,838	5,314	10,156
Adjusted Ramp Volume:	152	767	310	1,613	1,316	1,547	1,570	1,656
Downstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Downstream Freeway V/C:	0.27	0.82	0.45	1.21	0.60	1.19	0.72	1.23
Proportion in lanes 1,2 (Pfm):	0.262	0.122	0.179	0.016	0.053	0.024	0.022	0.011
V12 (upstream two-lane volume):	958	2,826	1,591	4,647	1,784	4,438	2,126	4,756
VR12 (downstream two-lane volume):	1,110	3,593	1,901	6,260	3,100	5,985	3,696	6,412
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.24	0.78	0.41	1.36	0.67	1.30	0.80	1.39
Density (pc/mi/ln):	12.65	31.74	18.75	52.15	27.64	50.04	32.17	53.32
Level of Service:	B	D	B	F	C	F	D	F

SR 4: Willow Pass Rd EB off-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane Off-Ramp (Equation 8)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	3,282	7,029	4,845	10,468	6,181	10,220	7,175	10,603
Ramp Volume:	379	604	310	1,026	748	238	1,744	705
Deceleration Length (ft):	60	60	60	60	60	60	60	60
Adjusted Freeway Volume (Upstream):	3,657	7,831	5,398	11,663	6,886	11,386	7,994	11,813
Adjusted Ramp Volume:	422	673	345	1,143	834	265	1,943	786
Upstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Upstream Freeway V/C:	0.38	0.82	0.56	1.21	0.72	1.19	0.83	1.23
Proportion in lanes 1,2 (Pfd):	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436
V12 (upstream two-lane volume):	1,832	3,794	2,548	6,263	3,473	5,986	4,581	6,413
VR12 (downstream two-lane volume):	2,254	4,467	2,893	7,406	4,307	6,251	6,524	7,199
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	0.42	0.86	0.58	1.42	0.79	1.36	1.04	1.46
Density (pc/mi/ln):	19.47	36.34	25.62	57.57	33.58	55.19	43.11	58.86
Level of Service:	B	E	C	F	D	F	F	F

SR 4: Port Chicago WB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	3
Existing Dnstrm Frwy Lanes / Aux. Lanes	3

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	2,945	3,235	5,126	3,940	4,581	4,129	4,663	4,813
Ramp Volume:	218	445	257	817	867	1,542	1,047	1,350
Acceleration Length (ft.):	250	250	250	250	250	250	250	250
Adjusted Freeway Volume (Upstream):	3,281	3,604	5,711	4,390	5,104	4,600	5,195	5,362
Adjusted Ramp Volume:	243	496	286	910	966	1,717	1,166	1,504
Downstream Freeway Capacity:	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Downstream Freeway V/C:	0.49	0.57	0.83	0.74	0.84	0.88	0.88	0.95
Proportion in lanes 1,2 (Pfm):	0.598	0.598	0.598	0.598	0.598	0.598	0.598	0.598
V12 (upstream two-lane volume):	1,962	2,155	3,415	2,625	3,052	2,751	3,107	3,206
VR12 (downstream two-lane volume):	2,205	2,651	3,701	3,535	4,018	4,468	4,273	4,710
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.48	0.58	0.80	0.77	0.87	0.97	0.93	1.02
Density (pc/mi/ln):	20.99	24.36	32.64	31.06	34.80	37.97	36.70	39.95
Level of Service:	C	C	D	D	D	E	E	F

SR 4: Port Chicago WB off-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane Off-Ramp (Equation 8)

Existing Upstrm Frwy Lanes / Aux. Lanes	5
Existing Dnstrm Frwy Lanes / Aux. Lanes	5

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	8,733	3,524	13,946	4,746	12,609	5,449	12,912	6,983
Ramp Volume:	826	289	1,824	438	1,569	993	1,546	1,306
Deceleration Length (ft):	70	70	70	70	70	70	70	70
Adjusted Freeway Volume (Upstream):	9,730	3,926	15,538	5,288	14,048	6,070	14,386	7,780
Adjusted Ramp Volume:	920	322	2,032	488	1,748	1,106	1,723	1,455
Upstream Freeway Capacity:	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Upstream Freeway V/C:	0.81	0.33	1.29	0.44	1.17	0.51	1.20	0.65
Proportion in lanes 1,2 (Pfd):	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436
V12 (upstream two-lane volume):	4,761	1,893	7,921	2,581	7,111	3,270	7,244	4,213
VR12 (downstream two-lane volume):	5,681	2,215	9,953	3,069	8,859	4,376	8,967	5,668
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	1.08	0.43	1.80	0.59	1.62	0.74	1.65	0.96
Density (pc/mi/ln):	44.57	19.90	71.74	25.82	64.78	31.74	65.92	39.85
Level of Service:	F	B	F	C	F	D	F	E

SR 4: Willow Pass Rd WB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	7,971	3,047	11,440	4,298	11,388	4,970	11,457	5,073
Ramp Volume:	762	477	2,506	448	1,223	478	1,456	1,910
Acceleration Length (ft.):	255	255	255	255	255	255	255	255
Adjusted Freeway Volume (Upstream):	8,881	3,395	12,746	4,789	12,687	5,538	12,764	5,652
Adjusted Ramp Volume:	849	531	2,792	499	1,362	533	1,622	2,128
Downstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Downstream Freeway V/C:	1.01	0.41	1.62	0.55	1.46	0.63	1.50	0.81
Proportion in lanes 1,2 (Pfm):	0.112	0.151	-0.131	0.155	0.048	0.151	0.015	-0.048
V12 (upstream two-lane volume):	3,552	1,358	7,346	1,916	7,287	2,215	7,364	2,261
VR12 (downstream two-lane volume):	4,401	1,889	10,138	2,415	8,649	2,748	8,986	4,389
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.96	0.41	2.20	0.53	1.88	0.60	1.95	0.95
Density (pc/mi/ln):	37.81	18.37	81.67	22.48	70.71	25.07	73.22	37.13
Level of Service:	F	B	F	C	F	C	F	E

SR 4: Willow Pass Rd WB off-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane Off-Ramp (Equation 8)

Existing Upstrm Frwy Lanes / Aux. Lanes	5
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	8,490	3,359	12,320	4,679	13,544	6,280	13,515	6,200
Ramp Volume:	519	312	881	381	2,158	1,310	2,060	1,128
Deceleration Length (ft):	60	60	60	60	60	60	60	60
Adjusted Freeway Volume (Upstream):	9,459	3,742	13,726	5,213	15,090	6,997	15,058	6,908
Adjusted Ramp Volume:	578	348	982	424	2,404	1,459	2,295	1,256
Upstream Freeway Capacity:	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Upstream Freeway V/C:	0.79	0.31	1.14	0.43	1.26	0.58	1.25	0.58
Proportion in lanes 1,2 (Pfd):	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436
V12 (upstream two-lane volume):	4,450	1,828	6,538	2,512	7,935	3,874	7,860	3,720
VR12 (downstream two-lane volume):	5,028	2,176	7,520	2,936	10,339	5,333	10,155	4,976
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	1.01	0.42	1.49	0.57	1.80	0.88	1.79	0.85
Density (pc/mi/ln):	41.98	19.43	59.94	25.32	71.95	37.03	71.31	35.70
Level of Service:	F	B	F	C	F	E	F	E

SR 4: San Marco Blvd EB off-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane Off-Ramp (Equation 8)

Existing Upstrm Frwy Lanes / Aux. Lanes	5
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	3,148	7,945	4,784	9,841	6,392	11,999	6,311	11,941
Ramp Volume:	421	1,457	841	1,942	1,018	2,996	1,049	3,008
Deceleration Length (ft):	1,330	1,330	1,330	1,330	1,330	1,330	1,330	1,330
Adjusted Freeway Volume (Upstream):	3,507	8,852	5,330	10,964	7,122	13,369	7,031	13,304
Adjusted Ramp Volume:	469	1,623	937	2,164	1,134	3,338	1,168	3,352
Upstream Freeway Capacity:	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Upstream Freeway V/C:	0.29	0.74	0.44	0.91	0.59	1.11	0.59	1.11
Proportion in lanes 1,2 (Pfd):	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436
V12 (upstream two-lane volume):	1,794	4,775	2,852	6,001	3,745	7,712	3,724	7,691
VR12 (downstream two-lane volume):	2,263	6,398	3,789	8,165	4,879	11,050	4,892	11,043
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	0.41	1.09	0.65	1.36	0.85	1.75	0.85	1.75
Density (pc/mi/ln):	7.71	33.35	16.81	43.89	24.49	58.61	24.31	58.42
Level of Service:	A	F	B	F	C	F	C	F

SR 4: SB San Marco Blvd WB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	5

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	7,408	2,950	10,058	4,146	11,117	5,501	11,057	5,201
Ramp Volume:	1,082	409	2,262	534	2,428	780	2,458	1,000
Acceleration Length (ft.):	1,385	1,385	1,385	1,385	1,385	1,385	1,385	1,385
Adjusted Freeway Volume (Upstream):	8,253	3,287	11,206	4,619	12,385	6,129	12,319	5,795
Adjusted Ramp Volume:	1,205	456	2,520	595	2,705	869	2,739	1,114
Downstream Freeway Capacity:	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Downstream Freeway V/C:	0.79	0.31	1.14	0.43	1.26	0.58	1.25	0.58
Proportion in lanes 1,2 (Pfm):	0.067	0.161	-0.097	0.143	-0.120	0.109	-0.125	0.079
V12 (upstream two-lane volume):	3,301	1,315	5,806	1,848	6,985	2,452	6,919	2,318
VR12 (downstream two-lane volume):	4,506	1,771	8,326	2,443	9,690	3,321	9,658	3,432
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.98	0.39	1.81	0.53	2.11	0.72	2.10	0.75
Density (pc/mi/ln):	31.38	10.40	60.57	15.57	71.13	22.30	70.86	23.05
Level of Service:	D	B	F	B	F	C	F	C

SR 4: NB San Marco Blvd WB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	6,776	2,734	8,671	3,585	9,535	4,460	9,469	4,178
Ramp Volume:	632	216	1,388	561	1,582	1,041	1,589	1,023
Acceleration Length (ft.):	275	275	275	275	275	275	275	275
Adjusted Freeway Volume (Upstream):	7,549	3,046	9,661	3,994	10,623	4,969	10,549	4,655
Adjusted Ramp Volume:	704	241	1,546	625	1,762	1,160	1,770	1,140
Downstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Downstream Freeway V/C:	0.86	0.34	1.17	0.48	1.29	0.64	1.28	0.60
Proportion in lanes 1,2 (Pfm):	0.130	0.188	0.025	0.140	-0.002	0.073	-0.003	0.075
V12 (upstream two-lane volume):	3,020	1,218	4,261	1,598	5,223	1,988	5,149	1,862
VR12 (downstream two-lane volume):	3,724	1,459	5,807	2,223	6,985	3,148	6,919	3,002
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.81	0.32	1.26	0.48	1.52	0.68	1.50	0.65
Density (pc/mi/ln):	32.47	15.02	48.33	20.80	57.42	27.77	56.90	26.64
Level of Service:	D	B	F	C	F	C	F	C

SR 4: NB San Marco Blvd EB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	2,936	6,596	3,905	7,983	5,283	9,125	5,169	9,084
Ramp Volume:	89	37	388	72	32	-44	85	-37
Acceleration Length (ft.):	290	290	290	290	290	290	290	290
Adjusted Freeway Volume (Upstream):	3,271	7,349	4,351	8,894	5,886	10,166	5,758	10,121
Adjusted Ramp Volume:	99	41	432	80	35	-49	94	-42
Downstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Downstream Freeway V/C:	0.35	0.77	0.50	0.93	0.62	1.05	0.61	1.05
Proportion in lanes 1,2 (Pfm):	0.205	0.213	0.164	0.208	0.213	0.224	0.206	0.223
V12 (upstream two-lane volume):	1,308	2,940	1,740	3,558	2,354	4,766	2,303	4,721
VR12 (downstream two-lane volume):	1,407	2,981	2,172	3,638	2,389	4,717	2,397	4,679
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.31	0.65	0.47	0.79	0.52	1.03	0.52	1.02
Density (pc/mi/ln):	14.59	26.89	20.40	32.00	22.27	40.47	22.31	40.17
Level of Service:	B	C	C	D	C	F	C	F

SR 4: San Marco Blvd WB off-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane Off-Ramp (Equation 8)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	6,889	3,007	9,437	3,864	9,845	4,265	9,815	4,002
Ramp Volume:	113	273	767	280	311	-194	348	-175
Deceleration Length (ft):	60	60	60	60	60	60	60	60
Adjusted Freeway Volume (Upstream):	7,675	3,350	10,514	4,305	10,969	4,752	10,936	4,459
Adjusted Ramp Volume:	126	304	855	312	346	-216	388	-195
Upstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Upstream Freeway V/C:	0.80	0.35	1.10	0.45	1.14	0.50	1.14	0.46
Proportion in lanes 1,2 (Pfd):	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436
V12 (upstream two-lane volume):	3,417	1,632	5,114	2,053	5,569	1,950	5,536	1,834
VR12 (downstream two-lane volume):	3,543	1,936	5,969	2,365	5,915	1,734	5,924	1,639
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	0.78	0.37	1.16	0.47	1.27	0.44	1.26	0.42
Density (pc/mi/ln):	33.10	17.75	47.69	21.37	51.61	20.48	51.32	19.48
Level of Service:	D	B	F	C	F	C	F	B

SR 4: SB Bailey Rd EB off-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane Off-Ramp (Equation 8)

Existing Upstrm Frwy Lanes / Aux. Lanes	5
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	3,025	6,050	4,293	7,472	5,315	8,498	5,253	8,463
Ramp Volume:	145	583	362	950	588	1,097	454	1,094
Deceleration Length (ft):	895	895	895	895	895	895	895	895
Adjusted Freeway Volume (Upstream):	3,370	6,740	4,783	8,325	5,921	9,468	5,853	9,429
Adjusted Ramp Volume:	162	650	403	1,058	655	1,222	506	1,218
Upstream Freeway Capacity:	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Upstream Freeway V/C:	0.28	0.56	0.40	0.69	0.49	0.79	0.49	0.79
Proportion in lanes 1,2 (Pfd):	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436
V12 (upstream two-lane volume):	1,561	3,305	2,313	4,226	2,951	4,817	2,837	4,798
VR12 (downstream two-lane volume):	1,723	3,955	2,716	5,284	3,606	6,039	3,343	6,016
V12 Capacity:	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400
V12 V/C:	0.35	0.75	0.53	0.96	0.67	1.09	0.64	1.09
Density (pc/mi/ln):	9.62	24.62	16.09	32.54	21.58	37.62	20.60	37.46
Level of Service:	A	C	B	D	C	F	C	F

SR 4: Bailey Rd WB on-ramp

Highway Capacity Manual

2010 Edition

Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	6,634	2,826	8,751	3,550	8,940	3,768	8,932	3,538
Ramp Volume:	976	320	1,408	454	1,626	636	1,606	603
Acceleration Length (ft.):	1,285	1,285	1,285	1,285	1,285	1,285	1,285	1,285
Adjusted Freeway Volume (Upstream):	7,391	3,149	9,750	3,955	9,961	4,198	9,951	3,942
Adjusted Ramp Volume:	1,087	357	1,569	506	1,812	709	1,789	672
Downstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Downstream Freeway V/C:	0.88	0.37	1.18	0.46	1.23	0.51	1.22	0.48
Proportion in lanes 1,2 (Pfm):	0.082	0.173	0.022	0.155	-0.009	0.129	-0.006	0.134
V12 (upstream two-lane volume):	2,956	1,260	4,350	1,582	4,561	1,679	4,551	1,577
VR12 (downstream two-lane volume):	4,043	1,617	5,919	2,088	6,373	2,388	6,340	2,249
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.88	0.35	1.29	0.45	1.39	0.52	1.38	0.49
Density (pc/mi/ln):	28.45	9.87	42.86	13.47	46.29	15.72	46.05	14.65
Level of Service:	D	A	F	B	F	B	F	B

SR 4: Railroad Ave WB on-ramp

Highway Capacity Manual

2010 Edition

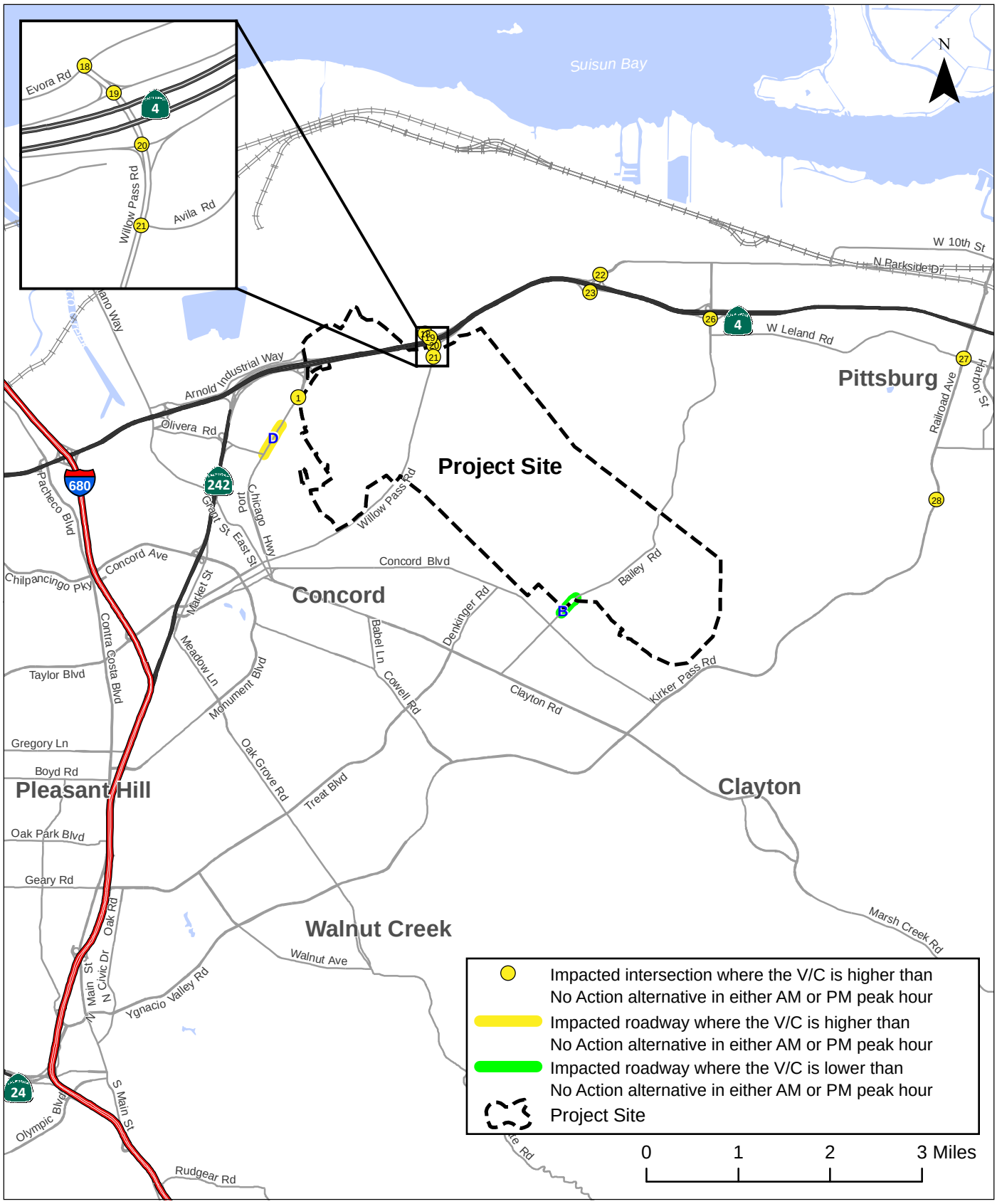
Capacity Analysis of Freeway Ramps

Ramp Analysis Type: 8 lane freeway, Single Lane On-Ramp (Equation 4)

Existing Upstrm Frwy Lanes / Aux. Lanes	4
Existing Dnstrm Frwy Lanes / Aux. Lanes	4

	Existing		No Action		Alternative 1		Alternative 2	
	AM	PM	AM	PM	AM	PM	AM	PM
Freeway Volume (Upstream):	5,030	2,208	6,169	3,023	6,176	3,058	6,149	2,969
Ramp Volume:	1,604	853	2,365	930	2,517	1,117	2,535	1,014
Acceleration Length (ft.):	260	260	260	260	260	260	260	260
Adjusted Freeway Volume (Upstream):	5,604	2,460	6,873	3,368	6,881	3,407	6,851	3,308
Adjusted Ramp Volume:	1,787	950	2,635	1,036	2,805	1,245	2,825	1,129
Downstream Freeway Capacity:	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Downstream Freeway V/C:	0.77	0.36	0.99	0.46	1.01	0.48	1.01	0.46
Proportion in lanes 1,2 (Pfm):	-0.006	0.172	-0.112	0.088	-0.133	0.062	-0.135	0.077
V12 (upstream two-lane volume):	2,242	984	2,749	1,347	2,752	1,363	2,740	1,323
VR12 (downstream two-lane volume):	4,029	1,934	5,384	2,383	5,557	2,608	5,565	2,452
VR12 Capacity:	4,600	4,600	4,600	4,600	4,600	4,600	4,600	4,600
VR12 V/C:	0.88	0.42	1.17	0.52	1.21	0.57	1.21	0.53
Density (pc/mi/ln):	34.45	18.49	44.63	21.96	45.90	23.61	45.95	22.45
Level of Service:	D	B	F	C	F	C	F	C

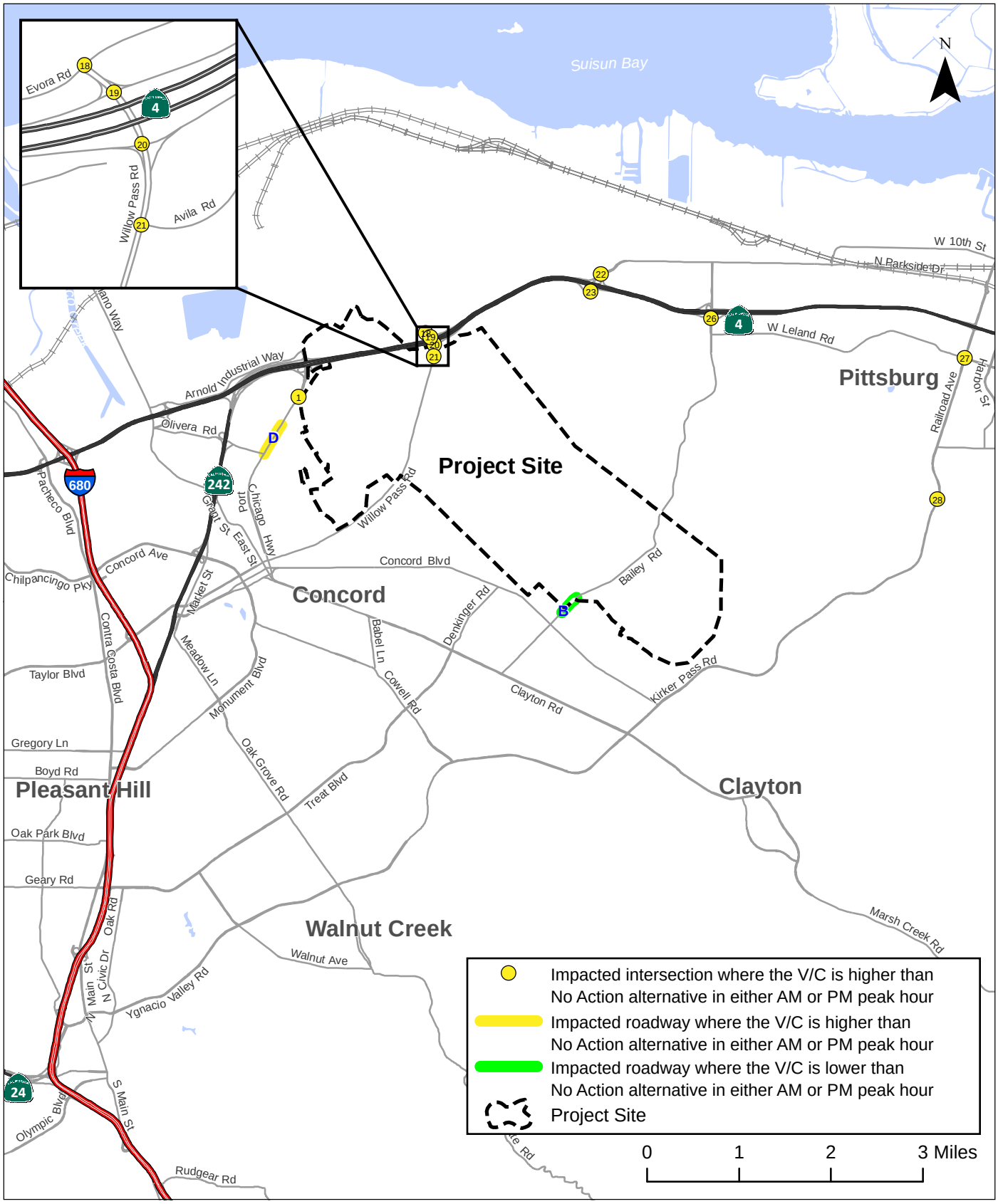
Appendix 5 Location of Impacts



Impacted Intersections and Roadways
Alternative 1: Area Plan

H:\profile\12820 - Concord NWS EIS\gis\04_Study Intersections and Roadways.mxd - rona - 10:57 AM 5/5/2014

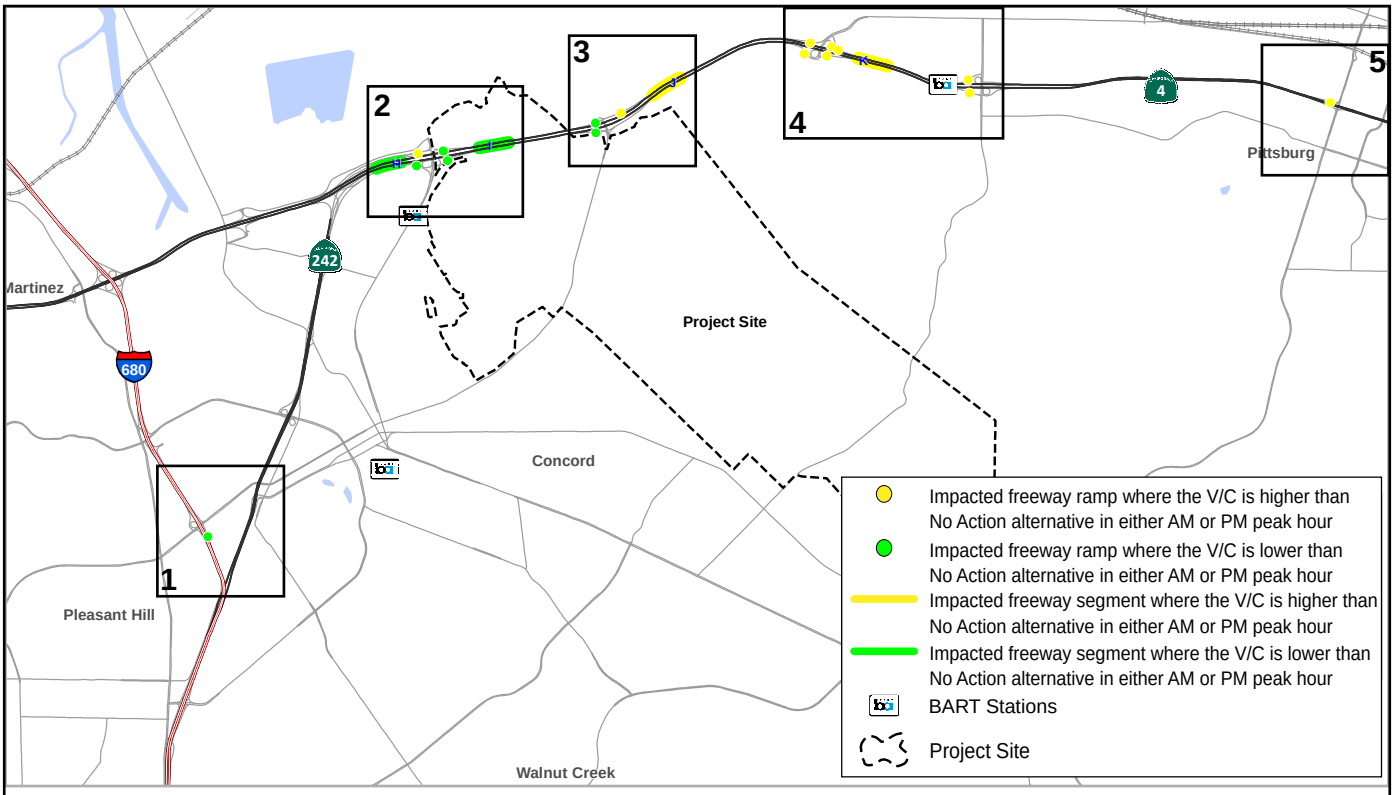
Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

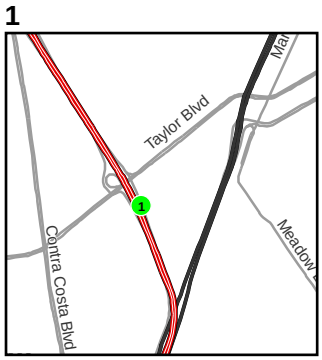


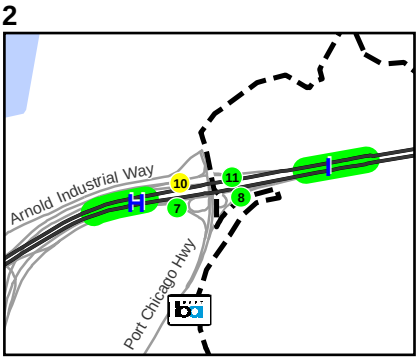
Intersections and Roadways
Alternative 2: Intensified Reuse – Impacted Locations

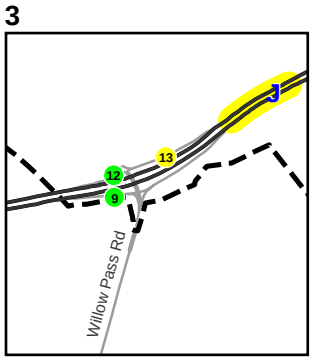
H:\projfile\12820 - Concord NWS EIS\gis\04_Study Intersections and Roadways.mxd - rona - 10:57 AM 5/5/2014

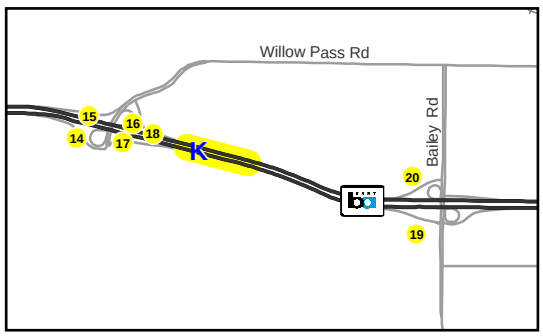
Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

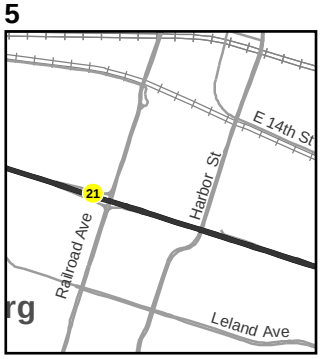






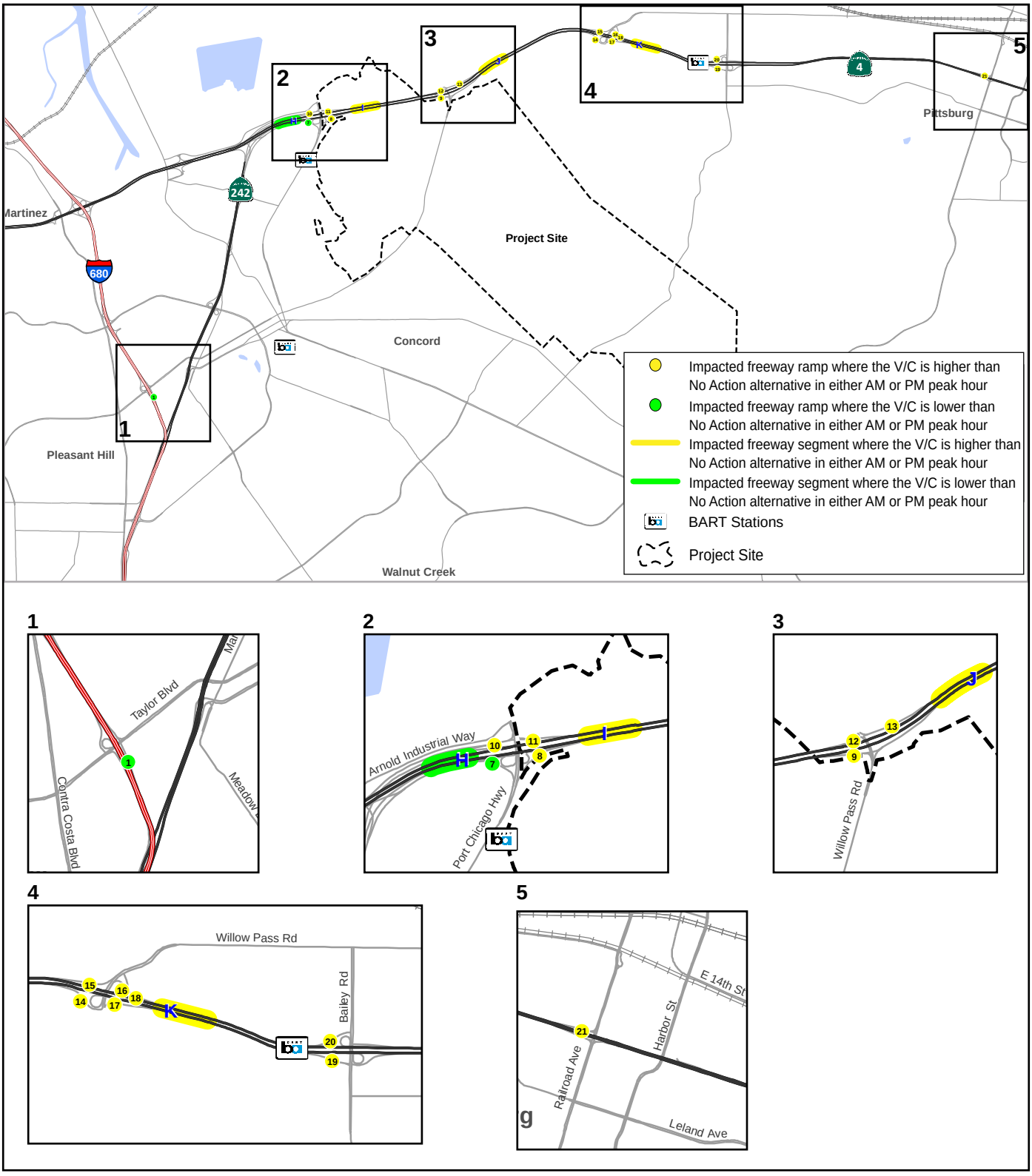






Freeway Segments and Ramps
Alternative 1: Area Plan - Impacted Locations

H:\proj\file\12820 - Concord NWS EIS\gis\04_Study Intersections and Roadways.mxd - rona - 10:57 AM 5/5/2014



Freeway Segments and Ramps
Alternative 2: Intensified Reuse - Impacted Locations

H:\proj\file\12820 - Concord NWS EIS\gis\04_Study Intersections and Roadways.mxd - rona - 10:57 AM 5/5/2014

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

Appendix 6 Intersection Count Sheets

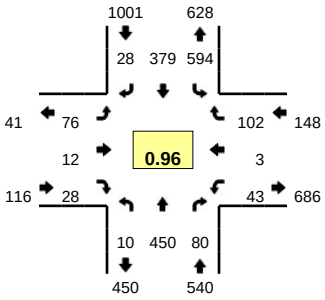
Type of peak hour being reported: Intersection Peak

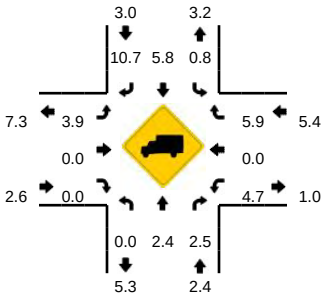
Method for determining peak hour: Total Entering Volume

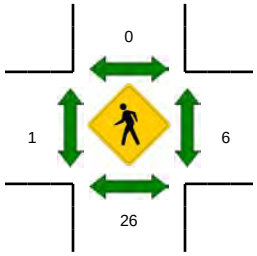
LOCATION: Port Chicago Hwy -- Panoramic Dr
CITY/STATE: Concord, CA

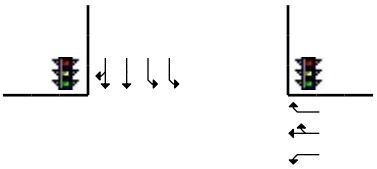
QC JOB #: 10976501
DATE: Wed, Jun 12 2013

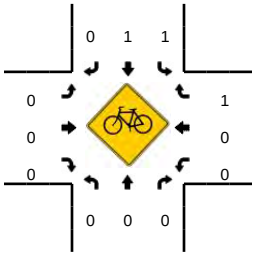
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

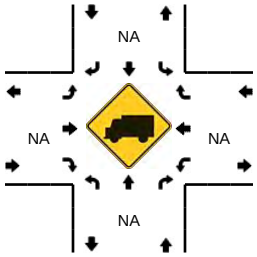


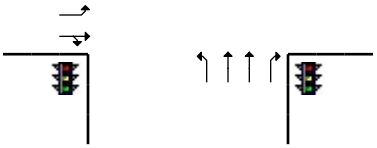


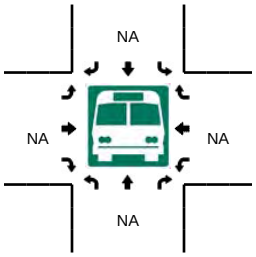












15-Min Count Period Beginning At	Port Chicago Hwy (Northbound)				Port Chicago Hwy (Southbound)				Panoramic Dr (Eastbound)				Panoramic Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	84	20	0	173	75	6	0	7	2	9	0	14	0	30	0	423	
7:15 AM	0	116	16	0	145	90	8	0	16	2	7	0	11	0	28	0	439	
7:30 AM	5	115	19	0	152	103	7	0	25	6	7	0	11	2	20	0	472	
7:45 AM	2	135	25	0	124	111	7	0	28	2	5	0	7	1	24	0	471	1805
8:00 AM	3	106	13	0	105	130	8	0	10	2	2	0	1	0	15	0	395	1777
8:15 AM	1	87	16	0	96	98	10	0	14	1	5	0	4	1	14	0	347	1685
8:30 AM	1	104	12	0	64	70	8	0	13	2	4	0	6	0	20	0	304	1517
8:45 AM	2	89	6	0	70	91	2	0	4	0	2	0	1	0	10	0	277	1323

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	460	76	0	608	412	28	0	100	24	28	0	44	8	80	0	1888
Heavy Trucks	0	8	0		8	20	4		4	0	0		4	0	8		56
Pedestrians		24				0				4				4			32
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Port Chicago Hwy -- Panoramic Dr

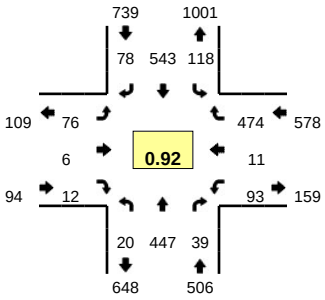
CITY/STATE: Concord, CA

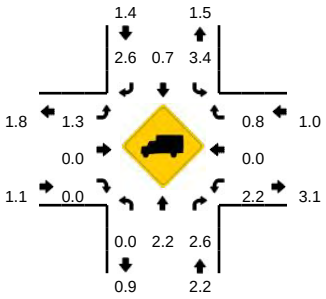
QC JOB #: 10976502

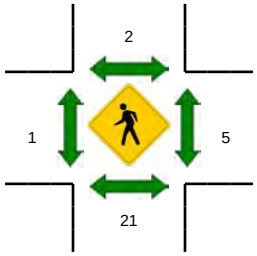
DATE: Wed, Jun 12 2013

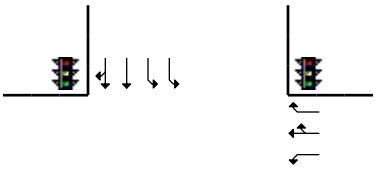
Peak-Hour: 5:00 PM -- 6:00 PM

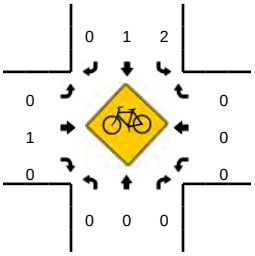
Peak 15-Min: 5:30 PM -- 5:45 PM

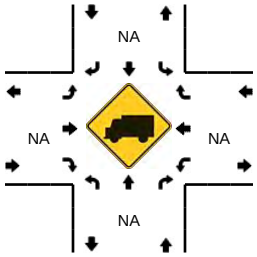


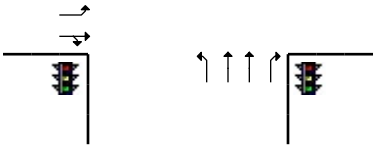


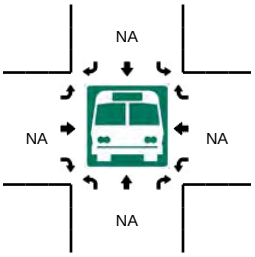












15-Min Count Period Beginning At	Port Chicago Hwy (Northbound)				Port Chicago Hwy (Southbound)				Panoramic Dr (Eastbound)				Panoramic Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	94	7	0	21	131	11	1	10	0	4	0	16	1	45	0	347	
4:15 PM	5	105	1	0	18	136	17	0	14	1	8	0	7	0	65	0	377	
4:30 PM	6	97	7	0	22	124	9	0	11	0	2	0	15	0	73	0	366	
4:45 PM	5	99	7	0	25	129	13	1	9	2	8	0	12	3	61	0	374	1464
5:00 PM	8	98	10	0	29	144	16	2	17	0	2	0	12	2	96	0	436	1553
5:15 PM	2	114	13	0	23	136	17	1	17	2	6	0	23	2	109	0	465	1641
5:30 PM	5	114	7	0	27	144	24	1	25	3	2	0	35	3	130	0	520	1795
5:45 PM	5	121	9	0	35	119	21	0	17	1	2	0	23	4	139	0	496	1917

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	456	28	0	108	576	96	4	100	12	8	0	140	12	520	0	2080
Heavy Trucks	0	12	0		4	0	0		0	0	0		0	0	12		28
Pedestrians		16				0				0				0			16
Bicycles	0	0	0		0	1	0		0	1	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 7/1/2013 5:12 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

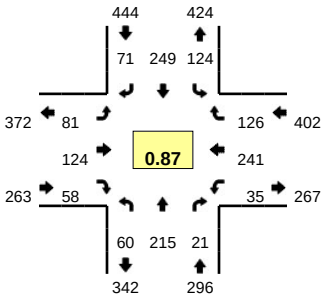
Type of peak hour being reported: Intersection Peak

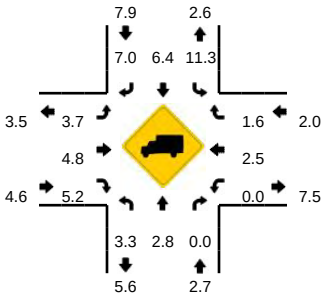
Method for determining peak hour: Total Entering Volume

LOCATION: Port Chicago Hwy -- Olivera Rd
CITY/STATE: Concord, CA

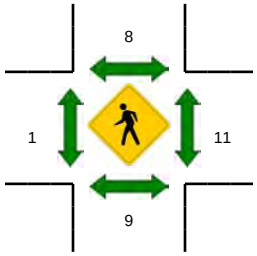
QC JOB #: 10976503
DATE: Tue, Jun 18 2013

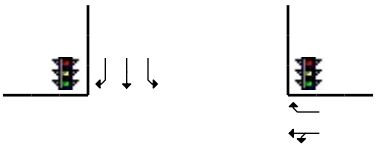
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

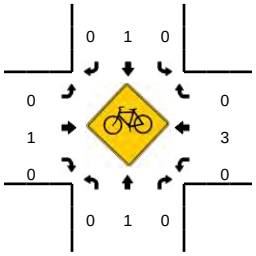


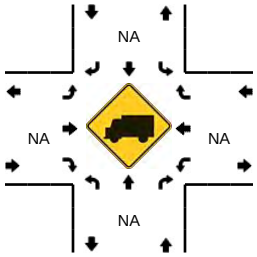


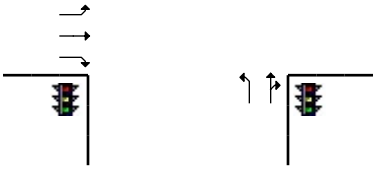
Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

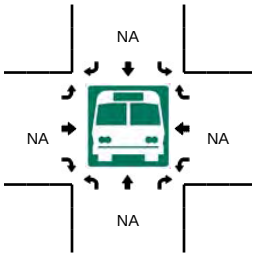












15-Min Count Period Beginning At	Port Chicago Hwy (Northbound)				Port Chicago Hwy (Southbound)				Olivera Rd (Eastbound)				Olivera Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	11	46	4	0	13	55	16	0	19	13	4	0	1	39	44	0	265	
7:15 AM	16	59	1	0	17	49	18	2	14	11	6	0	4	70	47	0	314	
7:30 AM	12	60	3	0	18	73	20	0	23	31	11	0	5	63	39	0	358	
7:45 AM	15	68	9	0	33	66	26	0	26	29	16	0	8	69	38	0	403	1340
8:00 AM	13	43	1	0	29	56	16	0	14	24	18	0	10	57	30	0	311	1386
8:15 AM	16	46	5	0	32	49	14	1	24	35	13	0	11	54	30	0	330	1402
8:30 AM	16	58	6	0	28	78	15	1	17	36	11	0	6	61	28	0	361	1405
8:45 AM	9	50	6	0	24	72	22	3	20	32	14	0	9	38	26	0	325	1327

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	60	272	36	0	132	264	104	0	104	116	64	0	32	276	152	0	1612
Heavy Trucks	4	4	0		4	16	8		8	4	0		0	8	4		60
Pedestrians		8				0				0				4			12
Bicycles	0	1	0		0	1	0		0	1	0		0	2	0		5
Railroad Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

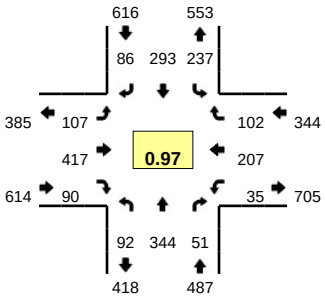
Type of peak hour being reported: Intersection Peak

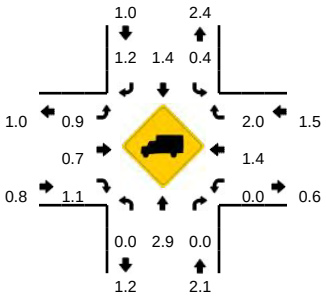
Method for determining peak hour: Total Entering Volume

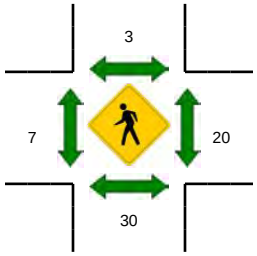
LOCATION: Port Chicago Hwy -- Olivera Rd
CITY/STATE: Concord, CA

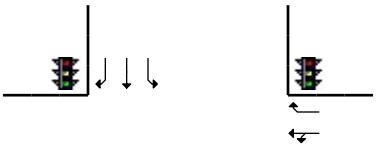
QC JOB #: 10976504
DATE: Tue, Jun 18 2013

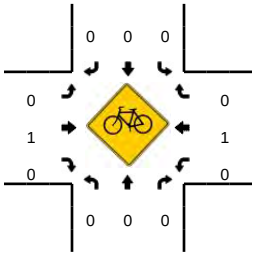
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

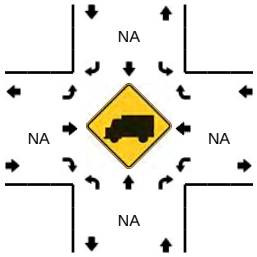


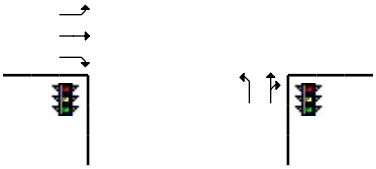


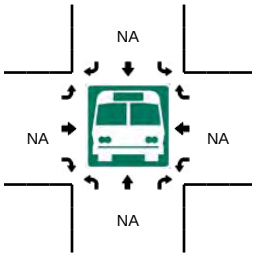












15-Min Count Period Beginning At	Port Chicago Hwy (Northbound)				Port Chicago Hwy (Southbound)				Olivera Rd (Eastbound)				Olivera Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	20	54	7	0	53	66	19	0	25	83	11	0	14	58	25	0	435	
4:15 PM	26	66	13	0	45	82	17	1	23	83	19	0	12	47	16	0	450	
4:30 PM	19	77	12	0	68	75	26	2	28	78	26	0	4	30	17	0	462	
4:45 PM	16	79	11	0	61	79	17	0	20	117	15	0	8	62	35	0	520	1867
5:00 PM	28	98	8	0	58	64	20	0	33	101	20	0	5	48	21	0	504	1936
5:15 PM	20	89	17	0	63	91	25	0	26	104	25	0	8	39	24	0	531	2017
5:30 PM	28	78	15	0	55	59	24	0	28	95	30	0	14	58	22	0	506	2061
5:45 PM	21	69	16	0	54	74	19	3	28	83	28	0	7	34	31	0	467	2008

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	80	356	68	0	252	364	100	0	104	416	100	0	32	156	96	0	2124
Heavy Trucks	0	4	0		0	4	0		4	4	0		0	0	0		16
Pedestrians		40				0				4				28			72
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

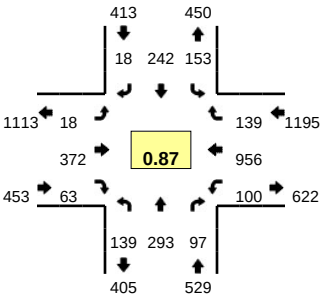
Type of peak hour being reported: Intersection Peak

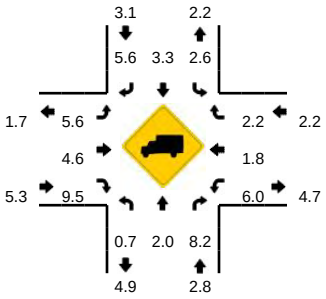
Method for determining peak hour: Total Entering Volume

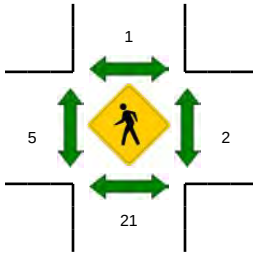
LOCATION: Farm Bureau Rd -- Willow Pass Rd
CITY/STATE: Concord, CA

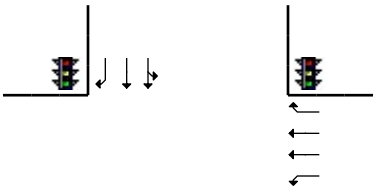
QC JOB #: 10976505
DATE: Wed, Jun 12 2013

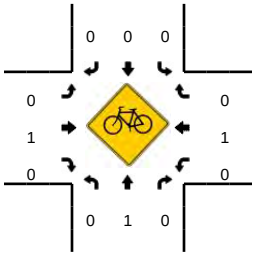
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

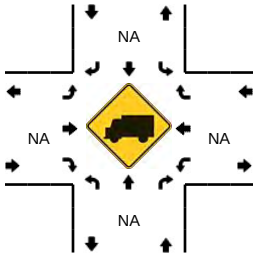




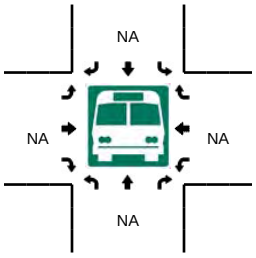












15-Min Count Period Beginning At	Farm Bureau Rd (Northbound)				Farm Bureau Rd (Southbound)				Willow Pass Rd (Eastbound)				Willow Pass Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	16	37	14	0	6	34	3	0	4	33	2	0	16	190	16	0	371	
7:15 AM	20	58	13	0	13	39	10	0	1	44	4	0	27	232	18	0	479	
7:30 AM	22	67	24	0	36	63	6	0	5	84	22	0	28	219	24	0	600	
7:45 AM	44	82	26	0	58	58	5	0	4	114	22	0	23	265	46	0	747	2197
8:00 AM	34	69	30	0	34	72	0	0	4	100	9	0	25	246	44	0	667	2493
8:15 AM	39	75	17	0	25	49	7	0	5	74	10	0	24	226	25	0	576	2590
8:30 AM	23	50	17	0	14	19	6	0	2	54	8	0	22	164	22	0	401	2391
8:45 AM	19	39	14	0	18	42	3	0	3	58	9	0	15	123	11	0	354	1998

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	176	328	104	0	232	232	20	0	16	456	88	0	92	1060	184	0	2988
Heavy Trucks	0	8	8		4	4	0		0	24	0		12	20	0		80
Pedestrians		8				0				0				8			16
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

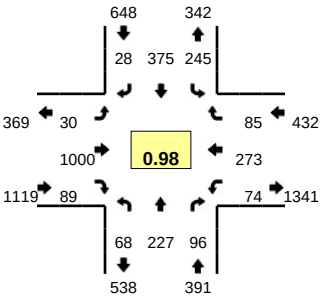
Type of peak hour being reported: Intersection Peak

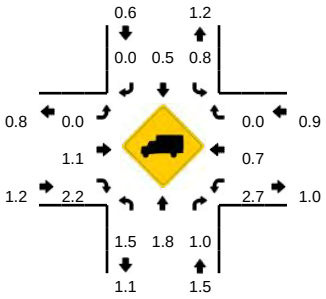
Method for determining peak hour: Total Entering Volume

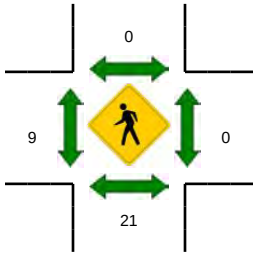
LOCATION: Farm Bureau Rd -- Willow Pass Rd
CITY/STATE: Concord, CA

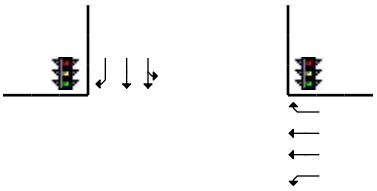
QC JOB #: 10976506
DATE: Wed, Jun 12 2013

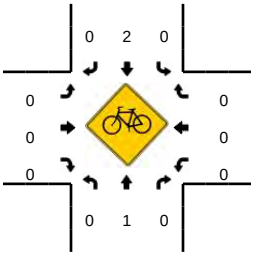
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

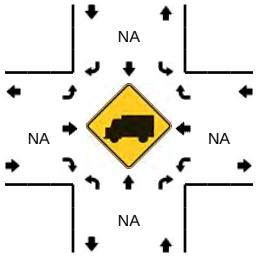


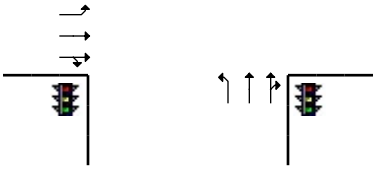


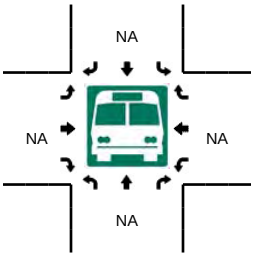












15-Min Count Period Beginning At	Farm Bureau Rd (Northbound)				Farm Bureau Rd (Southbound)				Willow Pass Rd (Eastbound)				Willow Pass Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	50	25	0	51	86	2	0	4	155	24	0	19	78	13	0	514	
4:15 PM	18	39	26	0	57	87	6	0	6	197	22	0	22	66	23	0	569	
4:30 PM	17	42	31	0	45	85	8	0	3	221	25	0	18	80	15	0	590	
4:45 PM	15	55	20	0	55	91	5	0	10	208	30	0	31	80	21	0	621	2294
5:00 PM	14	50	21	0	66	93	11	0	7	230	17	0	17	78	16	0	620	2400
5:15 PM	19	55	26	0	65	96	2	0	7	286	22	0	16	54	14	0	662	2493
5:30 PM	16	59	24	0	50	87	10	0	9	247	26	0	26	72	23	0	649	2552
5:45 PM	19	63	25	0	64	99	5	0	7	237	24	0	15	69	32	0	659	2590

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	76	220	104	0	260	384	8	0	28	1144	88	0	64	216	56	0	2648
Heavy Trucks	4	4	0		0	0	0		0	4	0		0	8	0		20
Pedestrians		8				0				20				0			28
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

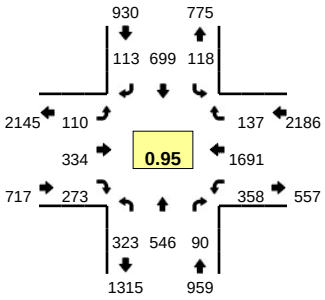
Type of peak hour being reported: Intersection Peak

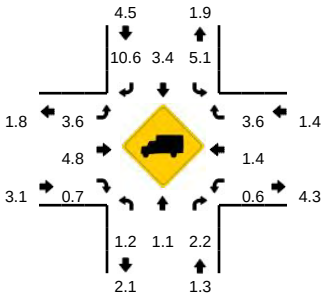
Method for determining peak hour: Total Entering Volume

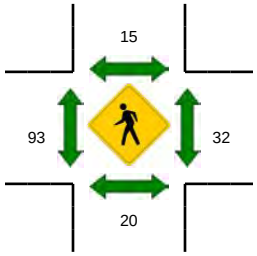
LOCATION: Oak Grove Rd -- Treat Blvd
CITY/STATE: Concord, CA

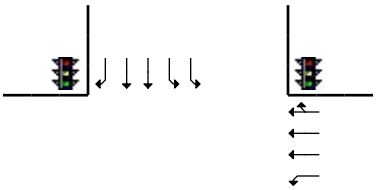
QC JOB #: 10976507
DATE: Wed, Jun 12 2013

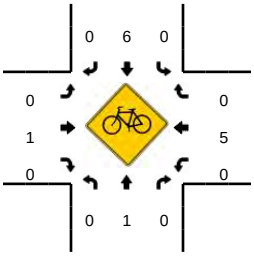
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

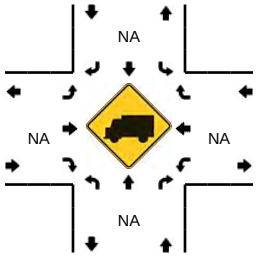


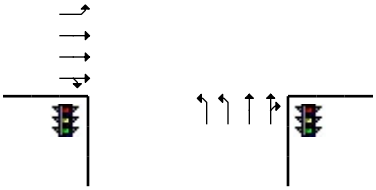


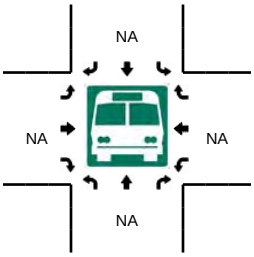












15-Min Count Period Beginning At	Oak Grove Rd (Northbound)				Oak Grove Rd (Southbound)				Treat Blvd (Eastbound)				Treat Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	71	45	9	0	18	84	26	0	19	44	39	5	54	438	38	6	896	
7:15 AM	84	75	14	0	29	148	28	0	14	55	46	2	65	477	36	3	1076	
7:30 AM	83	118	16	0	25	174	40	0	31	85	83	2	86	451	41	6	1241	
7:45 AM	63	148	24	0	19	190	18	0	29	115	96	11	108	408	32	2	1263	4476
8:00 AM	93	205	36	0	45	187	27	0	18	79	48	3	84	355	28	4	1212	4792
8:15 AM	91	81	25	0	21	127	38	0	26	96	57	4	73	383	31	7	1060	4776
8:30 AM	41	72	16	0	26	133	38	0	36	72	66	7	78	302	26	5	918	4453
8:45 AM	49	86	22	0	30	133	38	0	26	76	71	4	64	320	38	2	959	4149

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	252	592	96	0	76	760	72	0	116	460	384	44	432	1632	128	8	5052
Heavy Trucks	0	4	4		0	20	0		0	24	0		0	20	0		72
Pedestrians		20				16				120				28			184
Bicycles	0	0	0		0	1	0		0	0	0		0	3	0		4
Railroad Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

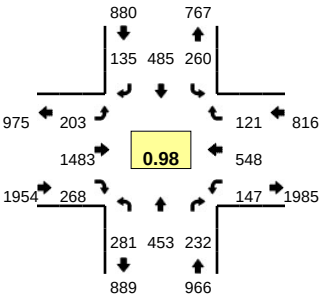
Type of peak hour being reported: Intersection Peak

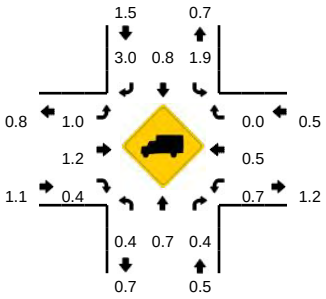
Method for determining peak hour: Total Entering Volume

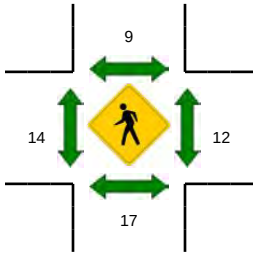
LOCATION: Oak Grove Rd -- Treat Blvd
CITY/STATE: Concord, CA

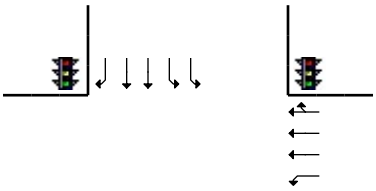
QC JOB #: 10976508
DATE: Wed, Jun 12 2013

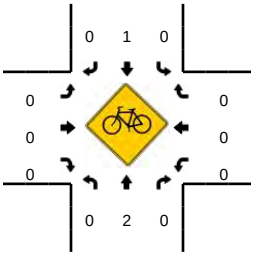
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

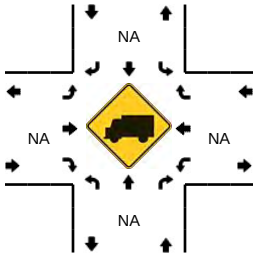


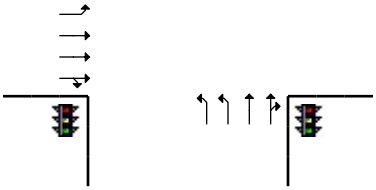


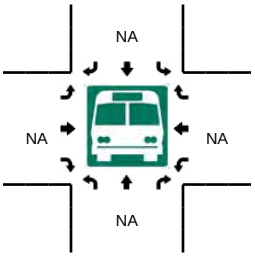












15-Min Count Period Beginning At	Oak Grove Rd (Northbound)				Oak Grove Rd (Southbound)				Treat Blvd (Eastbound)				Treat Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	62	106	63	0	52	98	33	0	60	297	48	8	33	137	29	1	1027	
4:15 PM	68	116	47	0	47	94	28	0	62	348	49	3	33	151	31	2	1079	
4:30 PM	81	129	67	0	63	123	22	0	51	302	55	3	34	110	30	4	1074	
4:45 PM	46	86	35	0	47	128	37	1	50	395	71	2	37	166	20	2	1123	4303
5:00 PM	86	147	78	0	73	125	32	0	42	325	55	6	37	119	24	1	1150	4426
5:15 PM	56	115	74	0	66	138	39	0	54	362	65	3	30	128	33	5	1168	4515
5:30 PM	93	105	45	0	73	94	27	0	46	401	77	0	32	135	44	3	1175	4616
5:45 PM	50	112	60	0	54	107	31	0	66	351	53	5	28	139	30	2	1088	4581

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	372	420	180	0	292	376	108	0	184	1604	308	0	128	540	176	12	4700
Heavy Trucks	4	0	4		4	4	0		0	16	0		0	4	0		36
Pedestrians		12				12				36				12			72
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

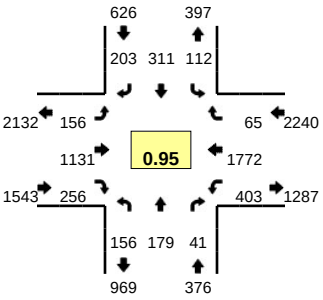
Type of peak hour being reported: Intersection Peak

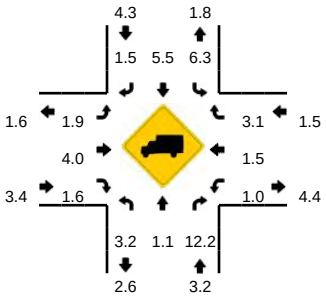
Method for determining peak hour: Total Entering Volume

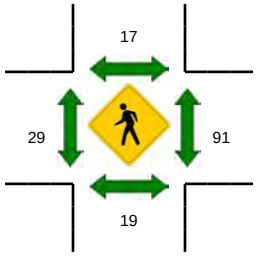
LOCATION: Oak Rd -- Treat Blvd
CITY/STATE: Contra Costa Centre, CA

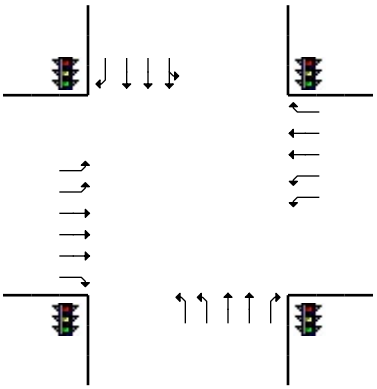
QC JOB #: 10976509
DATE: Wed, Jun 12 2013

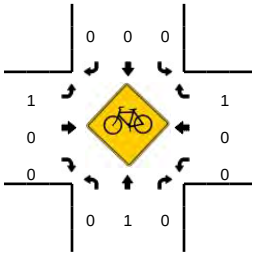
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

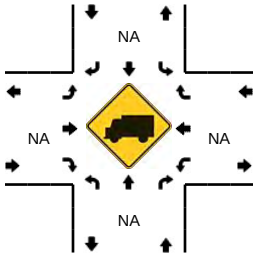


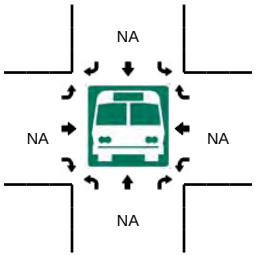












15-Min Count Period Beginning At	Oak Rd (Northbound)				Oak Rd (Southbound)				Treat Blvd (Eastbound)				Treat Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	28	24	8	1	11	30	52	0	35	196	27	0	38	505	14	1	970	
7:15 AM	40	39	3	0	19	61	46	0	48	248	50	0	73	434	11	0	1072	
7:30 AM	43	38	9	0	24	66	69	0	52	269	53	0	94	454	23	0	1194	
7:45 AM	32	65	8	1	20	63	44	0	42	287	83	0	114	479	25	2	1265	4501
8:00 AM	32	46	10	0	44	106	32	1	30	249	52	4	111	356	9	0	1082	4613
8:15 AM	46	30	14	2	23	76	58	0	28	326	68	0	80	483	8	2	1244	4785
8:30 AM	33	44	10	0	18	66	50	0	31	292	65	3	80	428	12	0	1132	4723
8:45 AM	47	28	9	0	17	58	36	1	29	299	59	0	63	349	19	0	1014	4472

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	128	260	32	4	80	252	176	0	168	1148	332	0	456	1916	100	8	5060
Heavy Trucks	0	0	4		0	12	0		8	44	0		4	28	0		100
Pedestrians		24				16				16				84			140
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

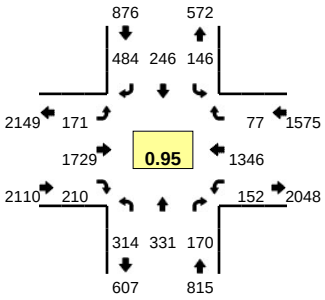
Type of peak hour being reported: Intersection Peak

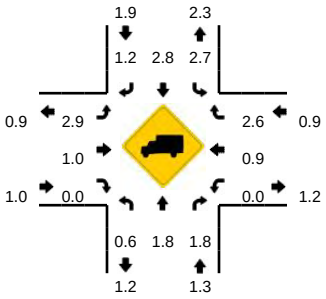
Method for determining peak hour: Total Entering Volume

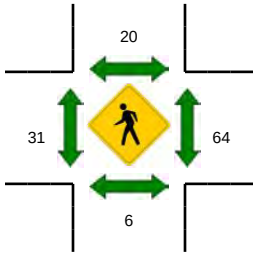
LOCATION: Oak Rd -- Treat Blvd
CITY/STATE: Contra Costa Centre, CA

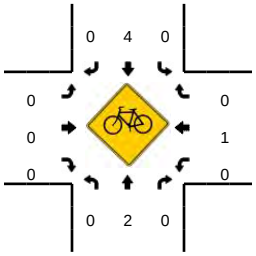
QC JOB #: 10976510
DATE: Wed, Jun 12 2013

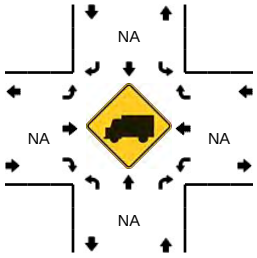
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

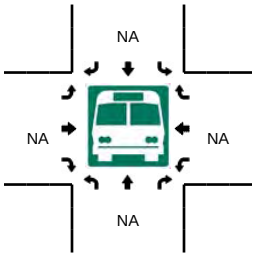


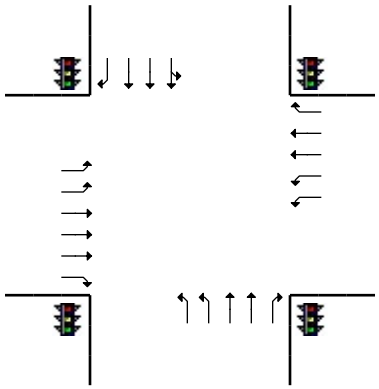












15-Min Count Period Beginning At	Oak Rd (Northbound)				Oak Rd (Southbound)				Treat Blvd (Eastbound)				Treat Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	60	46	33	0	27	42	104	0	29	442	40	2	30	344	10	2	1211	
4:15 PM	61	55	24	0	19	33	73	0	23	425	40	3	27	350	8	1	1142	
4:30 PM	76	61	39	0	32	39	103	0	39	434	52	0	36	328	11	2	1252	
4:45 PM	69	52	34	0	24	35	91	0	36	402	53	2	37	401	15	2	1253	4858
5:00 PM	83	104	43	0	46	75	128	0	40	414	30	3	40	348	23	1	1378	5025
5:15 PM	72	70	45	0	29	57	130	0	39	485	62	2	35	372	22	2	1422	5305
5:30 PM	87	102	44	2	35	61	126	0	46	361	61	1	35	271	14	0	1246	5299
5:45 PM	70	55	38	0	36	53	100	0	39	469	57	1	39	355	18	0	1330	5376

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	288	280	180	0	116	228	520	0	156	1940	248	8	140	1488	88	8	5688
Heavy Trucks	0	0	4		8	16	8		0	16	0		0	12	4		68
Pedestrians		12				24				36				56			128
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

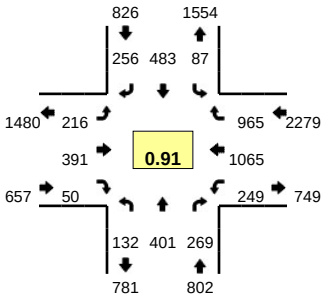
LOCATION: Oak Grove Rd -- Ygnacio Valley Rd

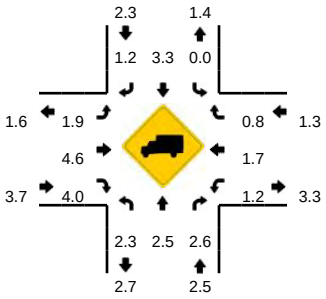
QC JOB #: 10976511

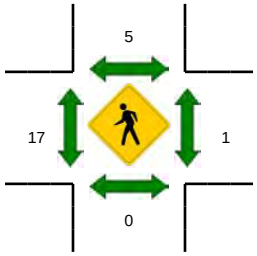
CITY/STATE: Walnut Creek, CA

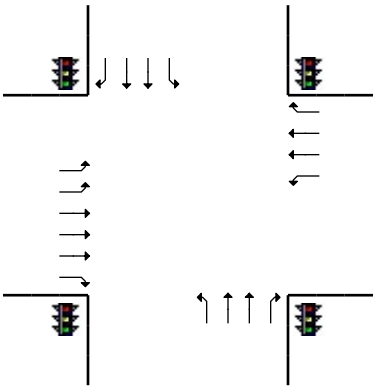
DATE: Wed, Jun 12 2013

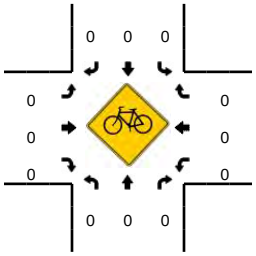
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

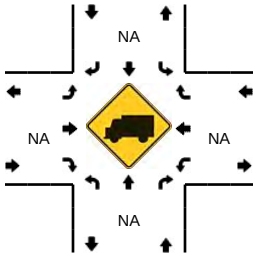


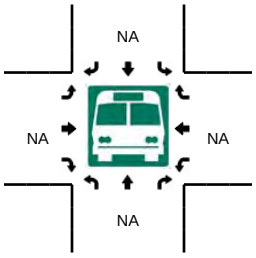












15-Min Count Period Beginning At	Oak Grove Rd (Northbound)				Oak Grove Rd (Southbound)				Ygnacio Valley Rd (Eastbound)				Ygnacio Valley Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	25	29	11	0	11	35	31	0	16	51	15	3	41	456	134	0	858	
7:15 AM	34	33	28	0	13	101	36	0	13	72	11	3	70	335	237	0	986	
7:30 AM	33	67	48	0	15	176	60	0	29	76	11	2	89	220	279	0	1105	
7:45 AM	26	105	70	0	16	117	56	0	58	123	14	10	74	283	245	0	1197	4146
8:00 AM	41	168	91	1	32	122	82	0	62	88	13	8	47	255	239	0	1249	4537
8:15 AM	31	61	60	0	24	68	58	0	39	104	12	8	37	307	202	2	1013	4564
8:30 AM	33	37	38	1	23	47	59	0	42	113	12	6	40	304	127	0	882	4341
8:45 AM	37	68	24	0	17	62	67	0	46	84	13	11	27	294	146	0	896	4040

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	164	672	364	4	128	488	328	0	248	352	52	32	188	1020	956	0	4996
Heavy Trucks	4	16	12		0	8	4		0	12	0		0	12	4		72
Pedestrians		0				0				16				0			16
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

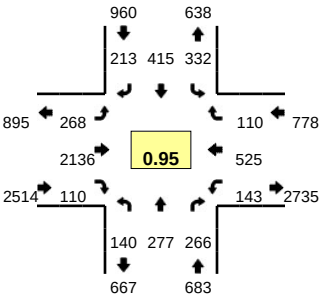
LOCATION: Oak Grove Rd -- Ygnacio Valley Rd

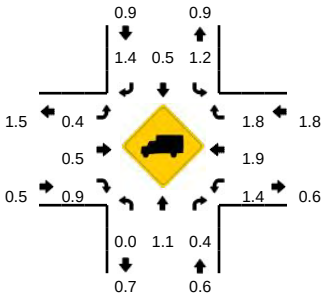
QC JOB #: 10976512

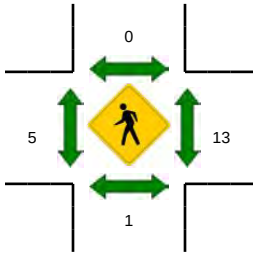
CITY/STATE: Walnut Creek, CA

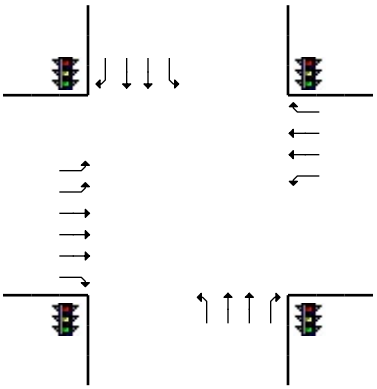
DATE: Wed, Jun 12 2013

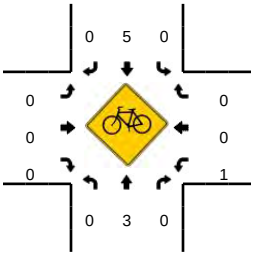
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

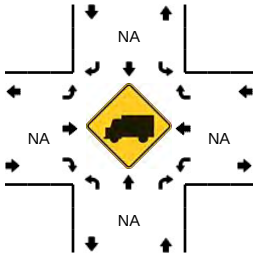


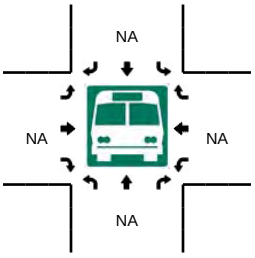












15-Min Count Period Beginning At	Oak Grove Rd (Northbound)				Oak Grove Rd (Southbound)				Ygnacio Valley Rd (Eastbound)				Ygnacio Valley Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	47	75	38	0	114	118	61	0	83	392	21	7	29	126	20	0	1131	
4:15 PM	38	68	51	0	63	81	61	0	64	436	31	6	24	153	27	0	1103	
4:30 PM	27	69	57	0	85	76	56	0	75	496	16	10	36	146	24	0	1173	
4:45 PM	36	77	43	0	78	121	51	0	59	510	21	6	40	137	25	0	1204	4611
5:00 PM	26	64	61	0	85	106	49	0	58	529	30	4	39	122	30	0	1203	4683
5:15 PM	36	57	70	0	81	103	69	0	67	586	27	3	37	143	26	0	1305	4885
5:30 PM	42	79	92	0	88	85	44	0	67	511	32	4	26	123	29	1	1223	4935
5:45 PM	33	75	81	1	70	70	49	0	59	523	23	8	38	139	26	0	1195	4926

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	144	228	280	0	324	412	276	0	268	2344	108	12	148	572	104	0	5220
Heavy Trucks	0	4	4		4	8	8		0	4	0		4	12	4		52
Pedestrians		0				0				8				4			12
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

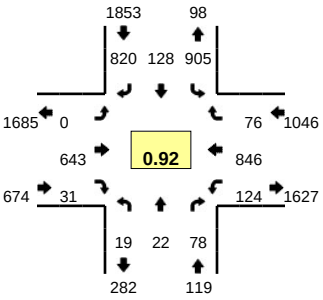
LOCATION: Commerce Ave/SR 242 SB Ramps -- Concord Ave

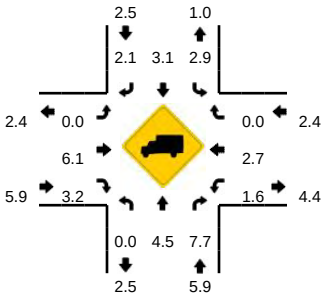
QC JOB #: 10976513

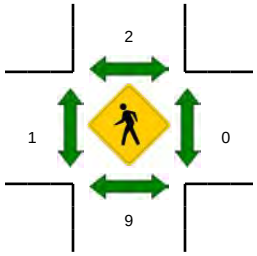
CITY/STATE: Concord, CA

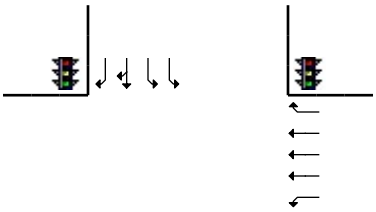
DATE: Wed, Jun 12 2013

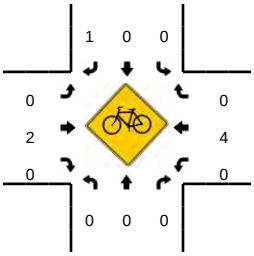
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

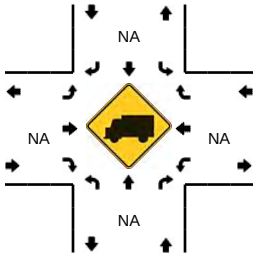




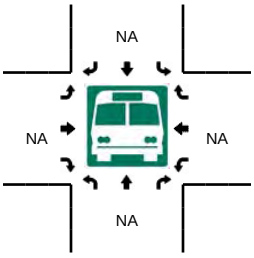












15-Min Count Period Beginning At	Commerce Ave/SR 242 SB Ramps (Northbound)				Commerce Ave/SR 242 SB Ramps (Southbound)				Concord Ave (Eastbound)				Concord Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	4	12	0	134	23	140	0	0	81	7	0	14	137	23	0	580	
7:15 AM	2	4	11	0	203	35	237	0	0	112	8	0	16	162	22	0	812	
7:30 AM	2	3	14	0	222	31	236	0	0	129	7	0	24	193	20	0	881	
7:45 AM	5	9	18	0	256	35	236	0	0	161	4	0	37	211	26	0	998	3271
8:00 AM	4	4	24	0	218	40	169	0	0	175	8	0	24	214	15	1	896	3587
8:15 AM	8	6	22	0	209	22	179	0	0	178	12	0	38	228	15	0	917	3692
8:30 AM	7	5	27	0	225	32	186	0	0	158	10	0	27	182	15	1	875	3686
8:45 AM	9	12	17	0	219	45	177	0	0	162	17	0	46	181	9	0	894	3582

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	36	72	0	1024	140	944	0	0	644	16	0	148	844	104	0	3992
Heavy Trucks	0	0	20		28	0	24		0	44	4		0	20	0		140
Pedestrians		4				0				0				0			4
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

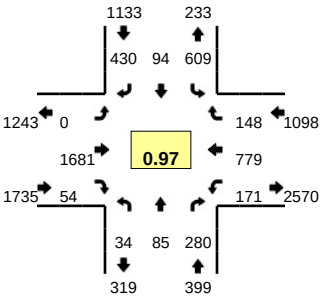
Method for determining peak hour: Total Entering Volume

LOCATION: Commerce Ave/SR 242 SB Ramps -- Concord Ave

QC JOB #: 10976514

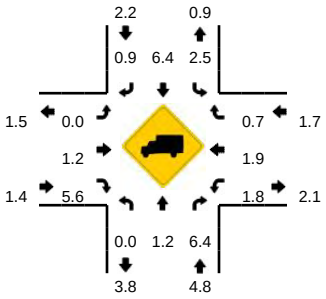
CITY/STATE: Concord, CA

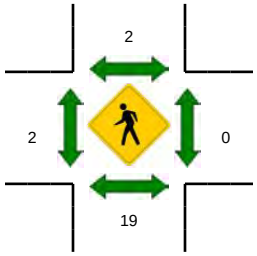
DATE: Wed, Jun 12 2013

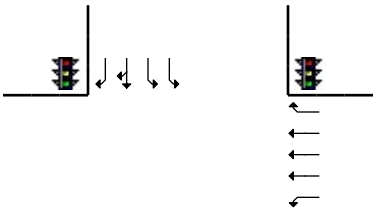


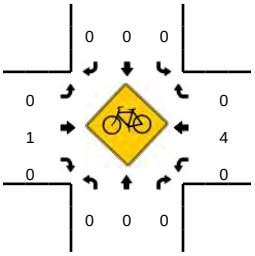
Peak-Hour: 4:30 PM -- 5:30 PM

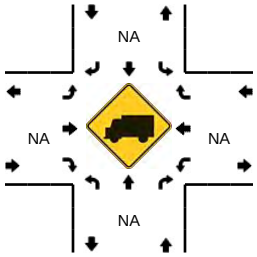
Peak 15-Min: 5:00 PM -- 5:15 PM



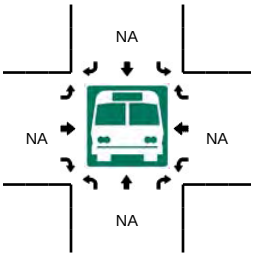












15-Min Count Period Beginning At	Commerce Ave/SR 242 SB Ramps (Northbound)				Commerce Ave/SR 242 SB Ramps (Southbound)				Concord Ave (Eastbound)				Concord Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	21	45	0	171	31	109	0	0	413	5	0	31	182	37	0	1054	
4:15 PM	12	24	53	0	149	21	101	0	0	389	10	0	41	177	43	0	1020	
4:30 PM	7	20	65	0	172	29	122	0	0	415	11	0	33	192	37	0	1103	
4:45 PM	4	19	47	0	159	19	106	0	0	393	16	0	45	192	34	0	1034	4211
5:00 PM	13	24	86	0	141	19	98	0	0	454	11	0	43	205	35	0	1129	4286
5:15 PM	10	22	82	0	137	27	104	0	0	419	16	0	50	190	42	0	1099	4365
5:30 PM	11	24	76	0	163	21	100	0	0	351	7	0	25	176	34	0	988	4250
5:45 PM	11	18	58	0	159	22	113	0	0	372	9	0	41	184	33	1	1021	4237

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	52	96	344	0	564	76	392	0	0	1816	44	0	172	820	140	0	4516
Heavy Trucks	0	4	16		12	0	0		0	28	8		8	16	0		92
Pedestrians		24				4				4				0			32
Bicycles	0	0	0		0	0	0		0	1	0		0	1	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

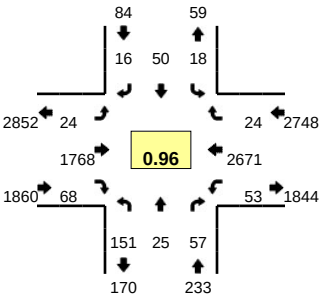
LOCATION: Walnut Blvd -- Ygnacio Valley Rd

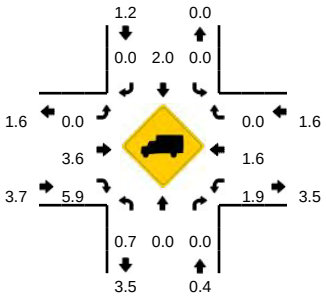
CITY/STATE: Walnut Creek, CA

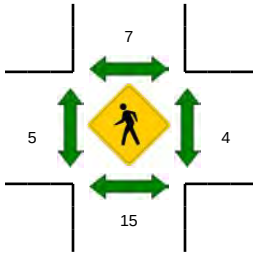
QC JOB #: 10976515

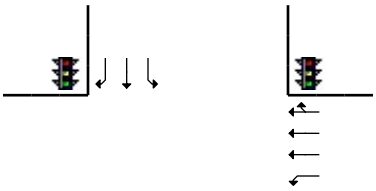
DATE: Wed, Jun 12 2013

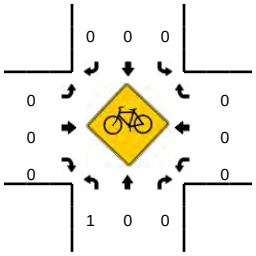
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

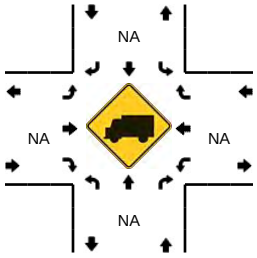


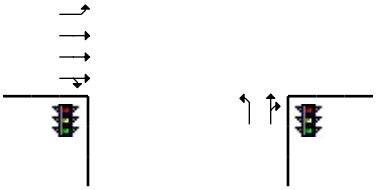


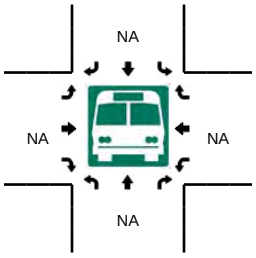












15-Min Count Period Beginning At	Walnut Blvd (Northbound)				Walnut Blvd (Southbound)				Ygnacio Valley Rd (Eastbound)				Ygnacio Valley Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	22	3	7	0	0	3	7	0	1	246	21	3	6	847	3	0	1169	
7:15 AM	42	2	19	0	3	7	3	0	0	329	8	2	8	650	5	0	1078	
7:30 AM	35	5	15	0	2	14	1	0	1	414	17	3	15	692	4	0	1218	
7:45 AM	52	7	18	0	9	12	3	0	2	456	18	2	14	669	11	0	1273	4738
8:00 AM	36	7	11	0	2	13	6	0	3	429	16	5	9	612	7	1	1157	4726
8:15 AM	28	6	13	0	5	11	6	0	4	469	17	4	14	698	2	0	1277	4925
8:30 AM	37	9	19	0	8	9	3	0	3	429	18	2	18	549	2	0	1106	4813
8:45 AM	21	3	26	0	6	13	4	0	3	469	26	2	13	607	6	1	1200	4740

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	112	24	52	0	20	44	24	0	16	1876	68	16	56	2792	8	0	5108
Heavy Trucks	0	0	0		0	0	0		0	88	4		4	52	0		148
Pedestrians		16				4				4				0			24
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Walnut Blvd -- Ygnacio Valley Rd

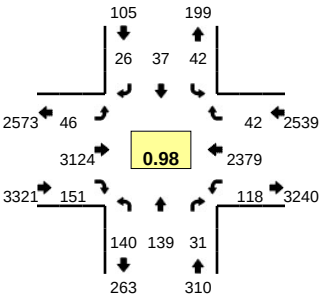
CITY/STATE: Walnut Creek, CA

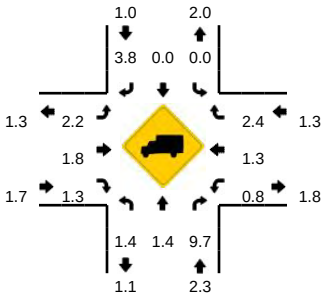
QC JOB #: 10976516

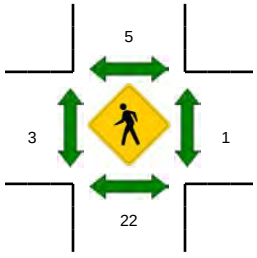
DATE: Wed, Jun 12 2013

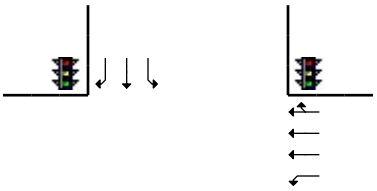
Peak-Hour: 4:30 PM -- 5:30 PM

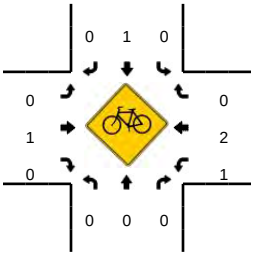
Peak 15-Min: 5:00 PM -- 5:15 PM

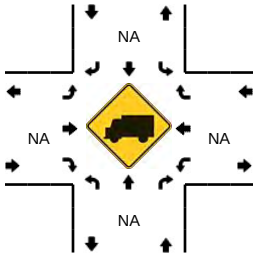


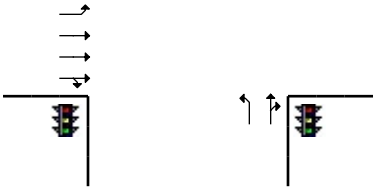


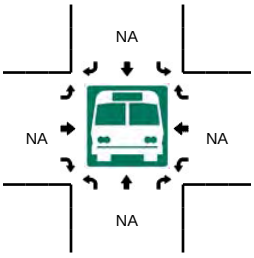












15-Min Count Period Beginning At	Walnut Blvd (Northbound)				Walnut Blvd (Southbound)				Ygnacio Valley Rd (Eastbound)				Ygnacio Valley Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	26	17	5	0	9	7	11	0	4	702	34	5	19	569	16	4	1428	
4:15 PM	32	29	6	0	11	9	5	0	6	711	43	5	23	594	12	3	1489	
4:30 PM	32	24	10	0	10	10	7	0	6	758	32	9	20	606	9	14	1547	
4:45 PM	29	34	5	0	10	7	7	0	3	769	37	6	13	590	9	11	1530	5994
5:00 PM	39	36	12	0	10	11	3	0	5	807	45	7	22	590	11	10	1608	6174
5:15 PM	40	45	4	0	12	9	9	0	4	790	37	6	20	593	13	8	1590	6275
5:30 PM	29	39	4	0	14	13	3	0	7	747	51	6	25	589	11	7	1545	6273
5:45 PM	21	26	7	0	13	11	5	0	8	784	36	2	22	515	10	12	1472	6215

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	156	144	48	0	40	44	12	0	20	3228	180	28	88	2360	44	40	6432
Heavy Trucks	4	4	0		0	0	0		0	52	4		4	32	0		100
Pedestrians		12				0				4				4			20
Bicycles	0	0	0		0	0	0		0	1	0		0	1	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: N Main St -- Geary Rd

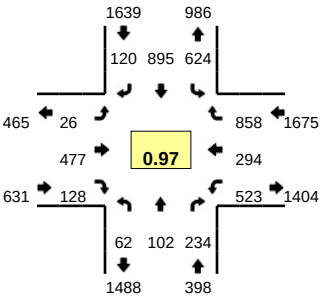
CITY/STATE: Walnut Creek, CA

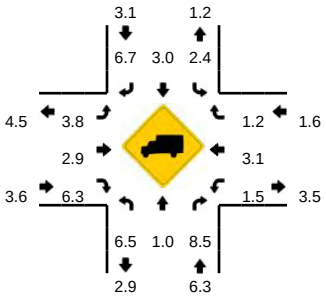
QC JOB #: 10976517

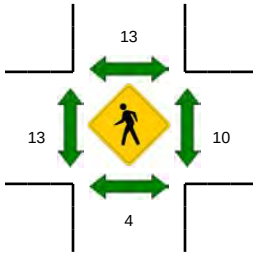
DATE: Wed, Jun 12 2013

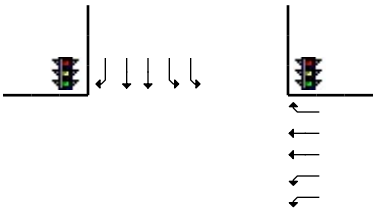
Peak-Hour: 7:30 AM -- 8:30 AM

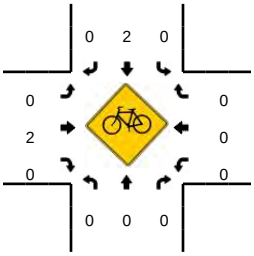
Peak 15-Min: 7:45 AM -- 8:00 AM

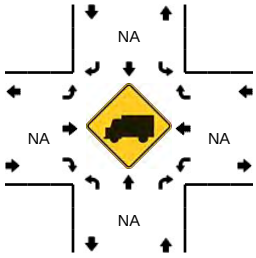


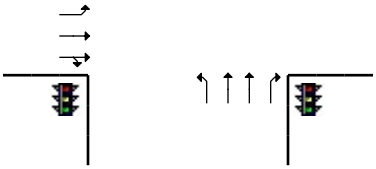


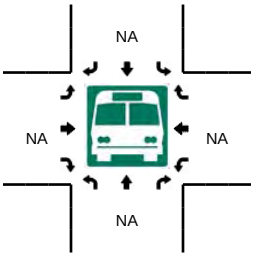












15-Min Count Period Beginning At	N Main St (Northbound)				N Main St (Southbound)				Geary Rd (Eastbound)				Geary Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	12	13	46	2	137	164	24	1	2	85	19	0	131	62	299	26	1023	
7:15 AM	6	18	56	3	145	241	36	1	3	98	26	0	104	50	220	14	1021	
7:30 AM	12	23	50	0	159	186	29	0	5	129	25	0	142	63	244	19	1086	
7:45 AM	12	24	63	2	178	234	47	0	3	123	38	0	91	73	214	21	1123	4253
8:00 AM	17	23	63	4	146	259	22	0	10	118	35	0	113	63	170	9	1052	4282
8:15 AM	10	32	58	5	141	216	22	0	8	107	30	0	108	95	230	20	1082	4343
8:30 AM	7	34	67	3	184	169	39	1	2	111	36	0	106	99	191	29	1078	4335
8:45 AM	8	28	60	2	161	134	47	1	6	128	19	0	83	87	195	31	990	4202

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	48	96	252	8	712	936	188	0	12	492	152	0	364	292	856	84	4492
Heavy Trucks	0	0	24		4	16	20		0	16	12		4	8	8		112
Pedestrians		4				16				16				24			60
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: N Main St -- Geary Rd

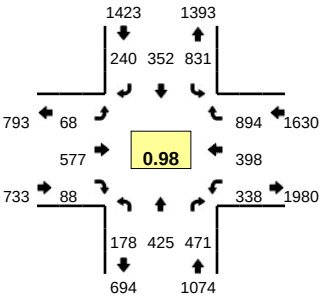
CITY/STATE: Walnut Creek, CA

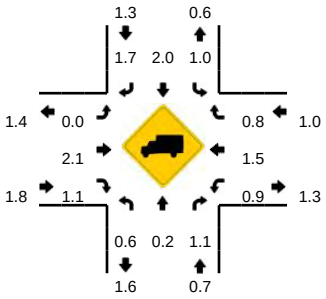
QC JOB #: 10976518

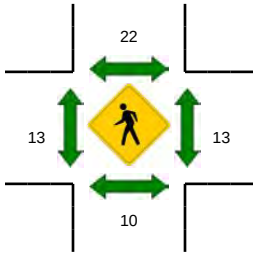
DATE: Wed, Jun 12 2013

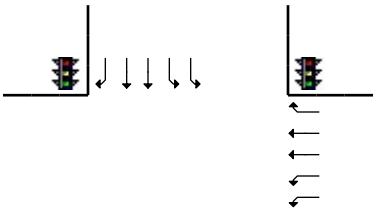
Peak-Hour: 4:45 PM -- 5:45 PM

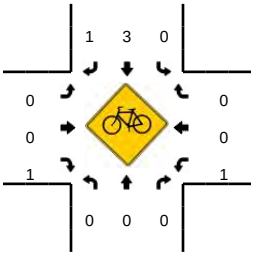
Peak 15-Min: 5:00 PM -- 5:15 PM

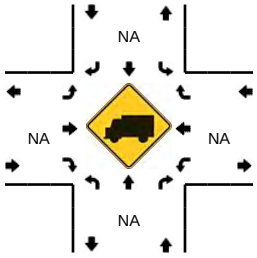


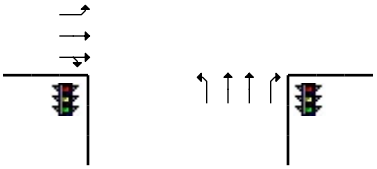


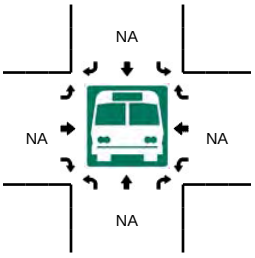












15-Min Count Period Beginning At	N Main St (Northbound)				N Main St (Southbound)				Geary Rd (Eastbound)				Geary Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	36	81	111	5	196	83	55	4	17	130	13	0	67	80	196	30	1104	
4:15 PM	42	107	104	3	190	72	57	2	13	146	24	0	68	87	191	33	1139	
4:30 PM	28	107	130	3	193	107	64	2	10	143	19	0	51	92	209	23	1181	
4:45 PM	31	101	124	6	166	86	65	3	14	156	28	0	64	103	220	33	1200	4624
5:00 PM	45	102	128	9	211	89	62	0	12	143	28	0	49	93	238	27	1236	4756
5:15 PM	35	113	106	2	223	94	58	1	21	140	15	0	59	112	215	27	1221	4838
5:30 PM	44	109	113	6	225	83	55	2	21	138	17	0	59	90	221	20	1203	4860
5:45 PM	33	100	104	8	178	84	65	3	15	141	23	0	70	114	208	26	1172	4832

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	180	408	512	36	844	356	248	0	48	572	112	0	196	372	952	108	4944
Heavy Trucks	0	0	8		8	4	8		0	12	0		0	4	4		48
Pedestrians		4				24				4				24			56
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

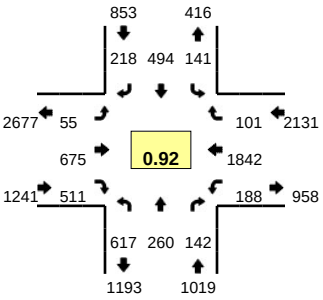
Type of peak hour being reported: Intersection Peak

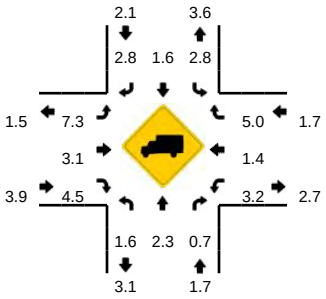
Method for determining peak hour: Total Entering Volume

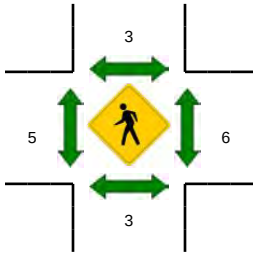
LOCATION: Bancroft Rd -- Treat Blvd
CITY/STATE: Walnut Creek, CA

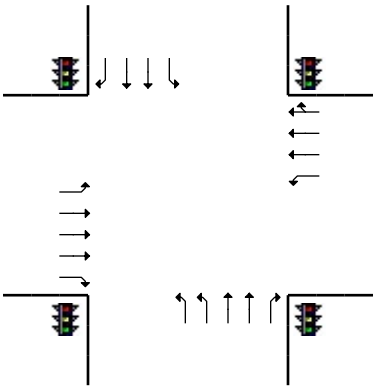
QC JOB #: 10976519
DATE: Wed, Jun 12 2013

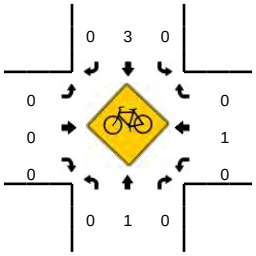
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

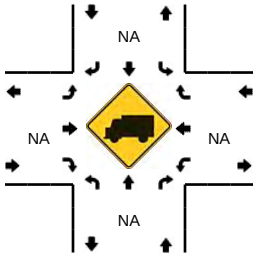


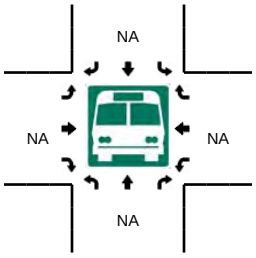












15-Min Count Period Beginning At	Bancroft Rd (Northbound)				Bancroft Rd (Southbound)				Treat Blvd (Eastbound)				Treat Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	136	36	11	0	23	61	53	0	7	89	62	0	19	454	13	0	964	
7:15 AM	150	40	22	0	41	81	45	0	13	132	109	0	32	499	18	0	1182	
7:30 AM	144	44	79	0	45	144	66	0	13	166	112	0	48	532	25	0	1418	
7:45 AM	191	81	27	0	47	147	56	0	16	153	141	0	48	468	21	0	1396	4960
8:00 AM	142	70	23	0	20	88	51	0	6	173	121	0	42	420	30	0	1186	5182
8:15 AM	140	65	13	0	29	115	45	0	20	183	137	0	50	422	25	0	1244	5244
8:30 AM	145	48	23	0	29	85	44	0	10	143	123	0	43	339	18	0	1050	4876
8:45 AM	130	51	19	0	24	113	40	0	11	135	116	0	46	348	21	0	1054	4534

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	576	176	316	0	180	576	264	0	52	664	448	0	192	2128	100	0	5672
Heavy Trucks	4	0	0		8	16	8		4	24	20		8	40	12		144
Pedestrians		0				4				0				4			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

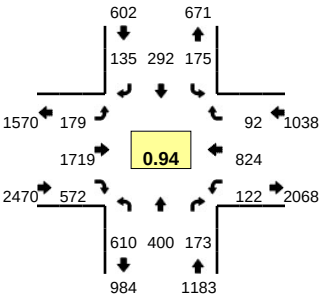
Type of peak hour being reported: Intersection Peak

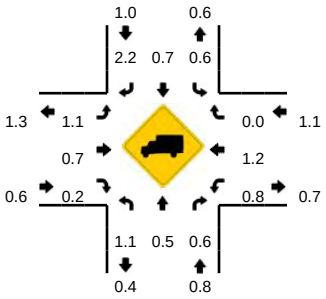
Method for determining peak hour: Total Entering Volume

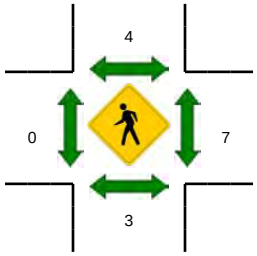
LOCATION: Bancroft Rd -- Treat Blvd
CITY/STATE: Walnut Creek, CA

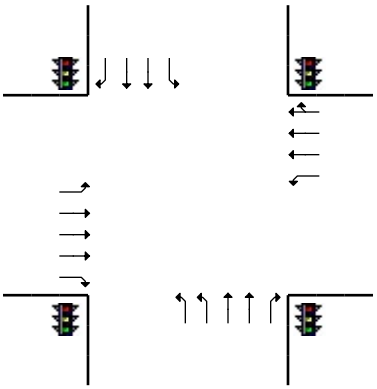
QC JOB #: 10976520
DATE: Wed, Jun 12 2013

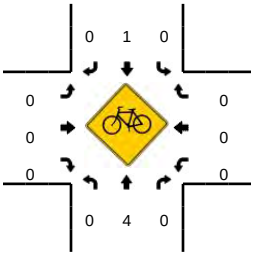
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

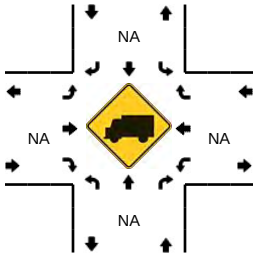


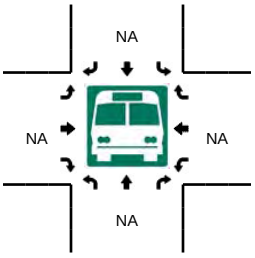












15-Min Count Period Beginning At	Bancroft Rd (Northbound)				Bancroft Rd (Southbound)				Treat Blvd (Eastbound)				Treat Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	141	79	48	0	41	56	27	0	29	397	118	0	25	225	18	0	1204	
4:15 PM	159	97	27	0	40	74	26	0	50	368	142	0	32	145	24	0	1184	
4:30 PM	153	83	45	0	43	63	27	0	46	413	134	0	29	223	25	1	1285	
4:45 PM	174	110	39	0	59	75	35	0	36	415	143	1	30	206	18	0	1341	5014
5:00 PM	153	108	47	0	38	79	41	1	50	369	130	0	33	186	16	1	1252	5062
5:15 PM	130	99	42	0	34	75	32	0	46	522	165	0	28	209	33	0	1415	5293
5:30 PM	137	86	40	0	43	108	31	1	51	395	133	0	34	188	21	1	1269	5277
5:45 PM	122	70	32	0	31	81	28	0	44	446	170	0	29	220	14	0	1287	5223

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	520	396	168	0	136	300	128	0	184	2088	660	0	112	836	132	0	5660
Heavy Trucks	4	0	4		0	4	0		4	8	0		0	12	0		36
Pedestrians		4				0				0				0			4
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Buskirk Ave/I-680 NB Off-Ramp -- Treat Blvd

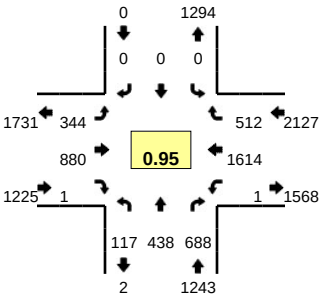
QC JOB #: 10976521

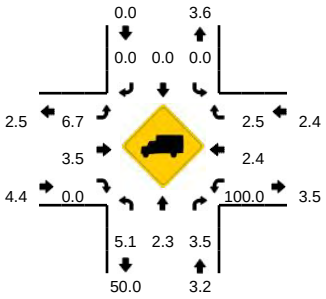
CITY/STATE: Contra Costa Centre, CA

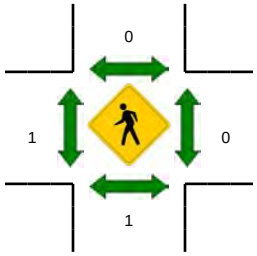
DATE: Wed, Jun 12 2013

Peak-Hour: 7:30 AM -- 8:30 AM

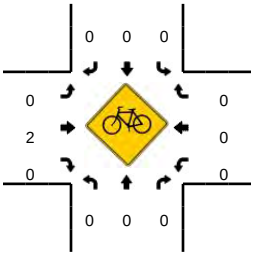
Peak 15-Min: 7:45 AM -- 8:00 AM

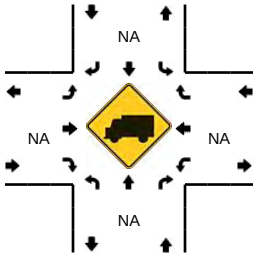


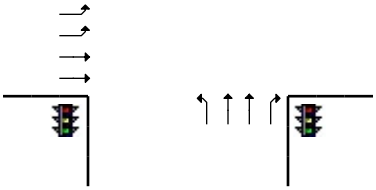


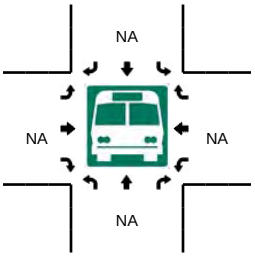












15-Min Count Period Beginning At	Buskirk Ave/I-680 NB Off-Ramp (Northbound)				Buskirk Ave/I-680 NB Off-Ramp (Southbound)				Treat Blvd (Eastbound)				Treat Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	17	55	90	0	0	0	0	0	57	166	0	0	0	511	79	0	975	
7:15 AM	23	61	162	0	0	0	0	0	96	194	0	0	0	401	112	0	1049	
7:30 AM	32	113	169	0	0	0	0	0	77	232	0	0	0	433	132	0	1188	
7:45 AM	34	106	160	0	0	0	0	0	95	240	0	0	1	417	153	0	1206	4418
8:00 AM	19	101	172	0	0	0	0	0	96	216	1	0	0	322	104	0	1031	4474
8:15 AM	32	118	187	0	0	0	0	0	76	192	0	0	0	442	123	0	1170	4595
8:30 AM	36	105	154	0	0	0	0	0	91	246	0	0	0	405	124	0	1161	4568
8:45 AM	45	111	174	0	0	0	0	0	97	221	0	0	0	334	120	0	1102	4464

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	136	424	640	0	0	0	0	0	380	960	0	0	4	1668	612	0	4824
Heavy Trucks	8	8	36		0	0	0		36	20	0		4	28	16		156
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

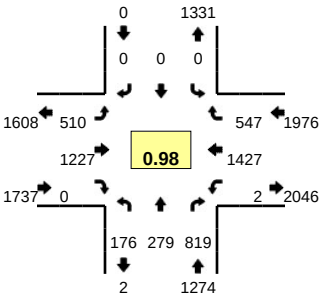
Method for determining peak hour: Total Entering Volume

LOCATION: Buskirk Ave/I-680 NB Off-Ramp -- Treat Blvd

QC JOB #: 10976522

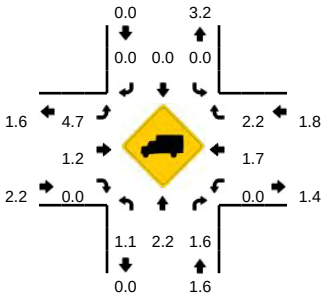
CITY/STATE: Contra Costa Centre, CA

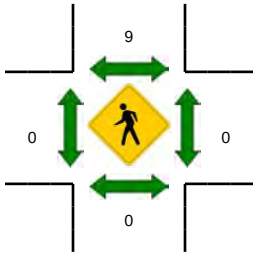
DATE: Wed, Jun 12 2013



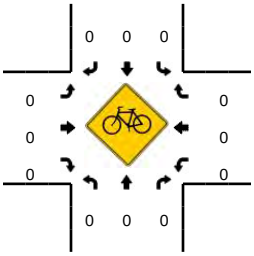
Peak-Hour: 4:45 PM -- 5:45 PM

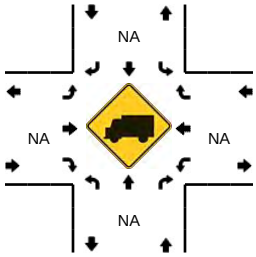
Peak 15-Min: 5:00 PM -- 5:15 PM

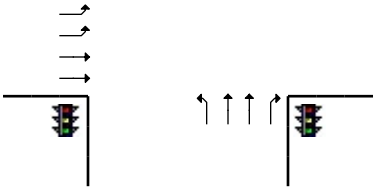


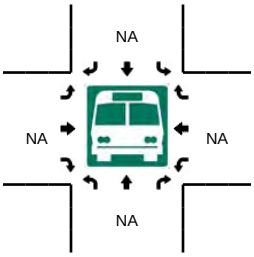












15-Min Count Period Beginning At	Buskirk Ave/I-680 NB Off-Ramp (Northbound)				Buskirk Ave/I-680 NB Off-Ramp (Southbound)				Treat Blvd (Eastbound)				Treat Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	38	62	203	0	0	0	0	0	101	280	0	0	0	344	123	0	1151	
4:15 PM	41	70	220	0	0	0	0	0	138	287	0	1	0	294	135	0	1186	
4:30 PM	35	54	231	0	0	0	0	0	126	303	0	0	0	317	137	0	1203	
4:45 PM	51	78	190	0	0	0	0	0	135	277	0	0	0	324	167	0	1222	4762
5:00 PM	32	60	214	0	0	0	0	0	126	321	0	0	0	392	130	0	1275	4886
5:15 PM	43	73	214	0	0	0	0	0	112	326	0	3	2	354	125	0	1252	4952
5:30 PM	50	68	201	0	0	0	0	0	132	303	0	2	0	357	125	0	1238	4987
5:45 PM	41	67	235	0	0	0	0	0	109	290	0	0	0	335	129	0	1206	4971

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	128	240	856	0	0	0	0	0	504	1284	0	0	0	1568	520	0	5100
Heavy Trucks	0	8	20		0	0	0		40	12	0		0	20	8		108
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: N Main St -- Sunnyvale Ave/I-680 SB Ramps

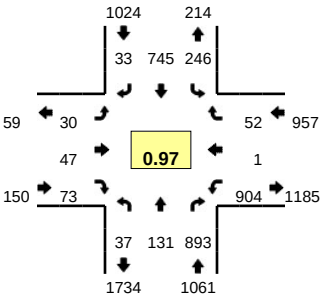
CITY/STATE: Walnut Creek, CA

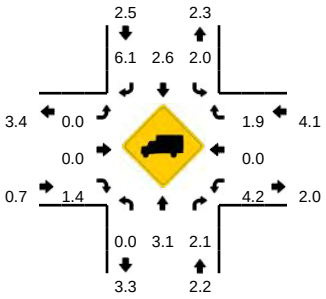
QC JOB #: 10976523

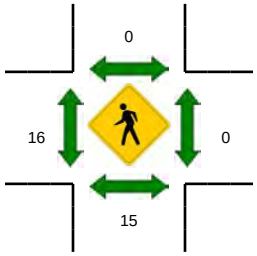
DATE: Wed, Jun 12 2013

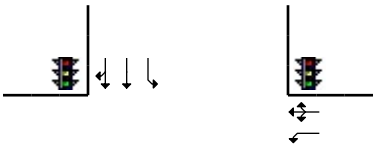
Peak-Hour: 7:15 AM -- 8:15 AM

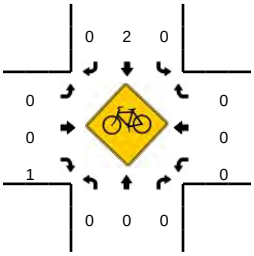
Peak 15-Min: 7:30 AM -- 7:45 AM

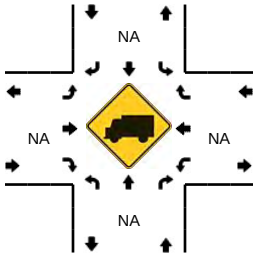


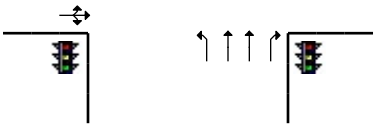


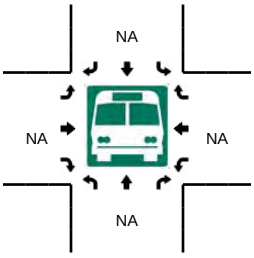












15-Min Count Period Beginning At	N Main St (Northbound)				N Main St (Southbound)				Sunnyvale Ave/I-680 SB Ramps (Eastbound)				Sunnyvale Ave/I-680 SB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	6	26	280	6	50	113	1	1	3	8	18	0	198	0	9	0	719	
7:15 AM	4	25	248	2	62	204	3	1	4	15	15	0	204	1	11	0	799	
7:30 AM	8	42	242	3	64	166	7	0	9	16	18	0	235	0	9	0	819	
7:45 AM	9	42	207	2	59	190	15	0	12	5	16	0	228	0	14	0	799	3136
8:00 AM	4	22	196	5	60	185	8	0	5	11	24	0	237	0	18	0	775	3192
8:15 AM	6	38	209	2	67	172	5	0	6	15	16	0	196	0	11	0	743	3136
8:30 AM	3	45	215	0	44	166	5	0	4	9	9	0	227	0	10	0	737	3054
8:45 AM	11	38	189	0	45	117	11	0	6	10	11	0	205	1	23	0	667	2922

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	32	168	968	12	256	664	28	0	36	64	72	0	940	0	36	0	3276
Heavy Trucks	0	4	20		16	16	0		0	0	0		52	0	0		108
Pedestrians		24				0				8				0			32
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

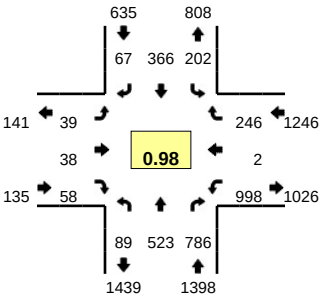
Method for determining peak hour: Total Entering Volume

LOCATION: N Main St -- Sunnyvale Ave/I-680 SB Ramps

QC JOB #: 10976524

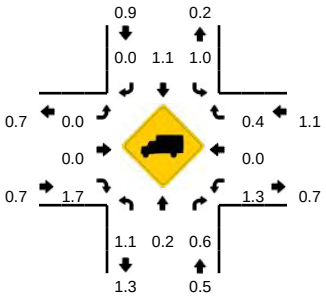
CITY/STATE: Walnut Creek, CA

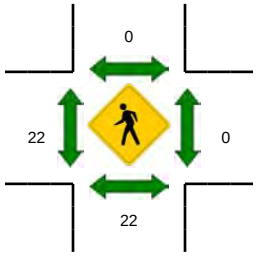
DATE: Wed, Jun 12 2013

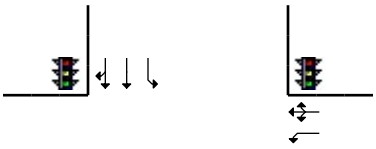


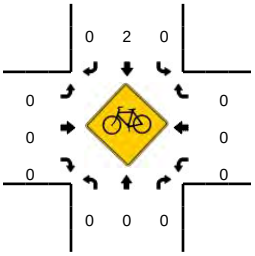
Peak-Hour: 4:45 PM -- 5:45 PM

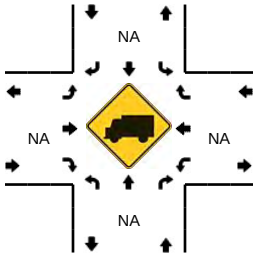
Peak 15-Min: 5:30 PM -- 5:45 PM

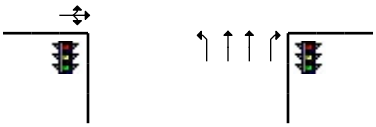


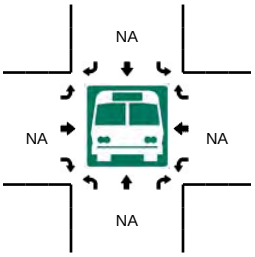












15-Min Count Period Beginning At	N Main St (Northbound)				N Main St (Southbound)				Sunnyvale Ave/I-680 SB Ramps (Eastbound)				Sunnyvale Ave/I-680 SB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	21	94	169	4	53	79	18	0	4	9	14	0	222	1	57	0	745	
4:15 PM	13	130	177	2	40	80	14	0	9	9	17	0	219	0	55	0	765	
4:30 PM	13	130	191	5	51	103	10	0	6	9	12	0	221	1	44	0	796	
4:45 PM	13	124	200	5	52	79	15	0	6	1	15	0	271	0	46	0	827	3133
5:00 PM	15	128	206	5	66	100	19	0	7	9	9	0	223	1	72	0	860	3248
5:15 PM	22	133	180	3	42	89	14	0	10	13	17	0	262	0	72	0	857	3340
5:30 PM	22	138	200	4	42	98	19	0	16	15	17	0	242	1	56	0	870	3414
5:45 PM	21	153	162	8	45	82	18	0	12	14	14	0	235	0	58	0	822	3409

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	88	552	800	16	168	392	76	0	64	60	68	0	968	4	224	0	3480
Heavy Trucks	0	0	4		4	0	0		0	0	0		8	0	0		16
Pedestrians		16				0				20				0			36
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

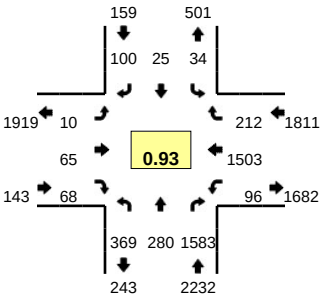
Method for determining peak hour: Total Entering Volume

LOCATION: I-680 NB Off-Ramp/Bart Station -- Ygnacio Valley Rd

QC JOB #: 10976525

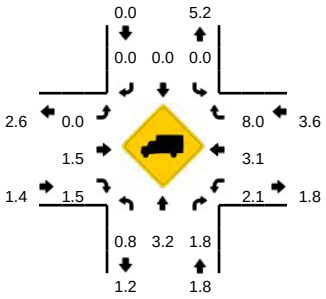
CITY/STATE: Walnut Creek, CA

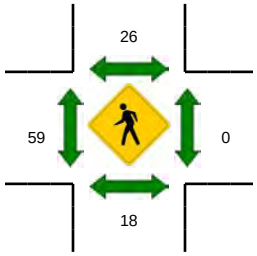
DATE: Wed, Jun 12 2013

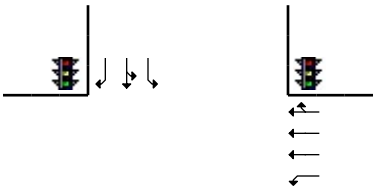


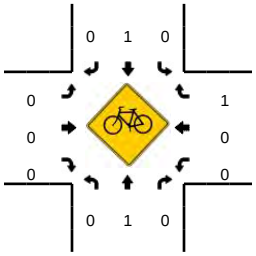
Peak-Hour: 7:15 AM -- 8:15 AM

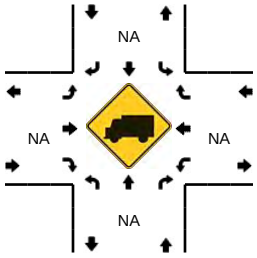
Peak 15-Min: 7:15 AM -- 7:30 AM

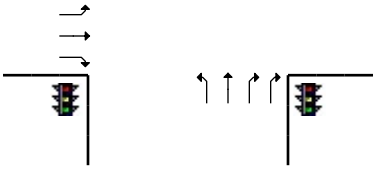


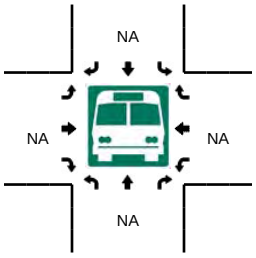












15-Min Count Period Beginning At	I-680 NB Off-Ramp/Bart Station (Northbound)				I-680 NB Off-Ramp/Bart Station (Southbound)				Ygnacio Valley Rd (Eastbound)				Ygnacio Valley Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	111	104	237	5	5	1	23	0	0	4	7	0	10	477	75	0	1059	
7:15 AM	104	96	347	10	12	7	32	0	2	10	8	0	19	452	65	0	1164	
7:30 AM	46	60	384	13	9	5	26	0	2	21	18	0	17	380	66	0	1047	
7:45 AM	87	64	448	21	9	6	22	0	3	10	17	0	33	302	37	0	1059	4329
8:00 AM	78	60	404	10	4	7	20	0	2	24	25	1	27	369	44	0	1075	4345
8:15 AM	92	79	451	10	6	4	16	0	0	11	22	0	37	362	33	0	1123	4304
8:30 AM	68	41	396	17	4	4	16	0	1	22	16	0	34	341	32	0	992	4249
8:45 AM	73	32	427	15	5	3	8	0	2	11	19	1	25	304	24	0	949	4139

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	416	384	1388	40	48	28	128	0	8	40	32	0	76	1808	260	0	4656
Heavy Trucks	0	8	24		0	0	0		0	4	0		0	40	12		88
Pedestrians		16				12				52				0			80
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

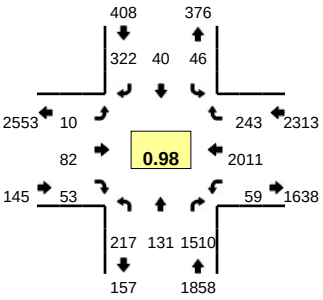
Method for determining peak hour: Total Entering Volume

LOCATION: I-680 NB Off-Ramp/Bart Station -- Ygnacio Valley Rd

QC JOB #: 10976526

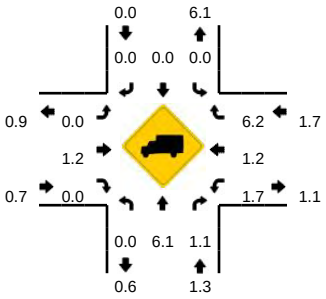
CITY/STATE: Walnut Creek, CA

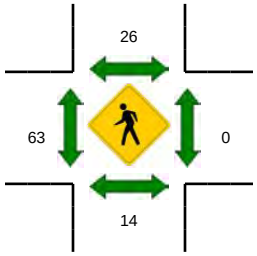
DATE: Wed, Jun 12 2013

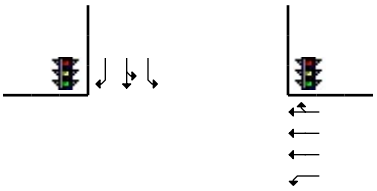


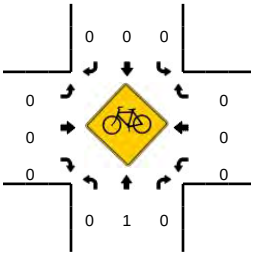
Peak-Hour: 5:00 PM -- 6:00 PM

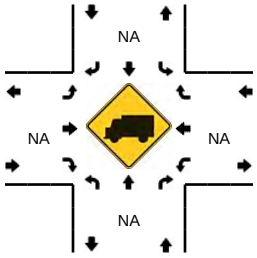
Peak 15-Min: 5:45 PM -- 6:00 PM

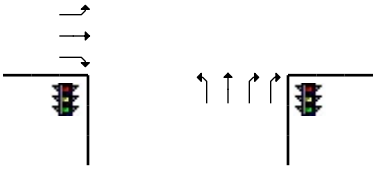


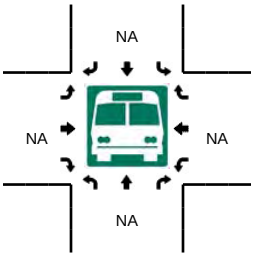












15-Min Count Period Beginning At	I-680 NB Off-Ramp/Bart Station (Northbound)				I-680 NB Off-Ramp/Bart Station (Southbound)				Ygnacio Valley Rd (Eastbound)				Ygnacio Valley Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	45	18	363	6	15	3	49	0	1	16	14	0	15	468	36	1	1050	
4:15 PM	42	17	363	0	10	6	42	0	0	11	12	4	22	476	31	0	1036	
4:30 PM	46	19	377	1	7	5	59	0	0	17	8	0	16	475	38	0	1068	
4:45 PM	57	29	372	3	10	4	69	0	2	8	9	2	19	485	40	0	1109	4263
5:00 PM	49	34	392	1	6	11	85	0	0	21	14	5	14	489	64	0	1185	4398
5:15 PM	48	22	337	1	11	3	73	0	1	22	20	2	16	556	62	0	1174	4536
5:30 PM	50	40	372	2	7	11	74	0	0	16	10	1	16	499	64	0	1162	4630
5:45 PM	65	35	409	1	22	15	90	0	1	23	9	0	13	467	53	0	1203	4724

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	260	140	1636	4	88	60	360	0	4	92	36	0	52	1868	212	0	4812
Heavy Trucks	0	8	4		0	0	0		0	4	0		0	16	20		52
Pedestrians		36				16				72				0			124
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

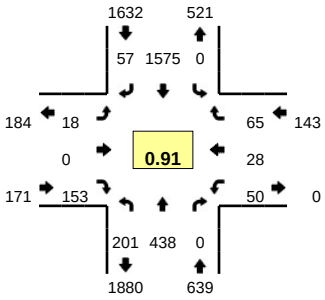
Method for determining peak hour: Total Entering Volume

LOCATION: Willow Pass Rd -- Evora Rd (East)/SR 4 WB Off-Ramp

QC JOB #: 10976527

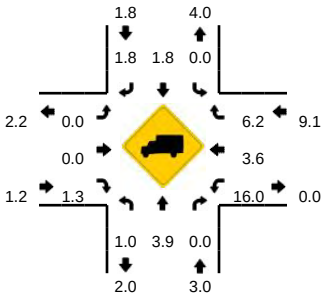
CITY/STATE: Bay Point, CA

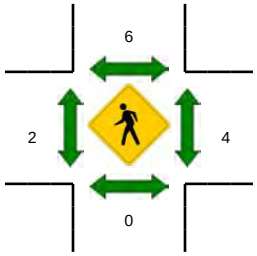
DATE: Thu, Jun 13 2013

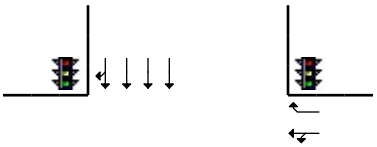


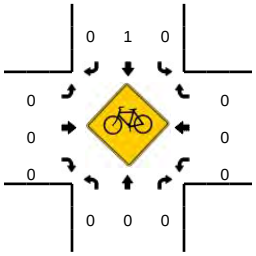
Peak-Hour: 7:15 AM -- 8:15 AM

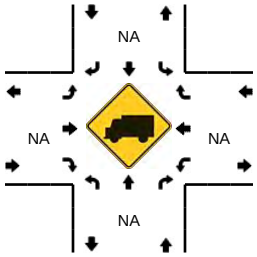
Peak 15-Min: 7:30 AM -- 7:45 AM

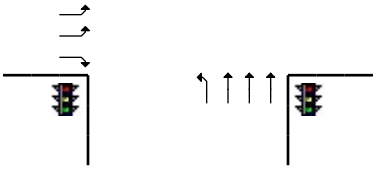


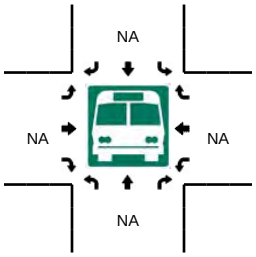












15-Min Count Period Beginning At	Willow Pass Rd (Northbound)				Willow Pass Rd (Southbound)				Evora Rd (East)/SR 4 WB Off-Ramp (Eastbound)				Evora Rd (East)/SR 4 WB Off-Ramp (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	24	60	0	27	0	360	15	0	3	0	26	0	11	9	12	0	547	
7:15 AM	21	88	0	31	0	396	17	0	5	0	34	0	5	7	10	0	614	
7:30 AM	24	86	0	37	0	456	19	0	3	0	46	0	20	7	12	0	710	
7:45 AM	26	111	0	21	0	415	8	0	8	0	46	0	14	9	21	0	679	2550
8:00 AM	28	153	0	13	0	308	13	0	2	0	27	0	11	5	22	0	582	2585
8:15 AM	18	139	0	3	0	197	5	0	12	0	40	0	7	12	19	0	452	2423
8:30 AM	10	80	0	1	0	197	9	0	1	0	28	0	3	8	14	0	351	2064
8:45 AM	13	92	0	0	0	182	5	0	6	0	18	0	9	6	23	0	354	1739

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	96	344	0	148	0	1824	76	0	12	0	184	0	80	28	48	0	2840
Heavy Trucks	4	28	0		0	52	0		0	0	0		12	0	4		100
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

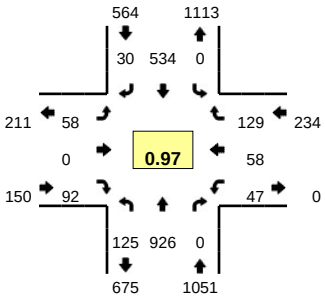
Method for determining peak hour: Total Entering Volume

LOCATION: Willow Pass Rd -- Evora Rd (East)/SR 4 WB Off-Ramp

QC JOB #: 10976528

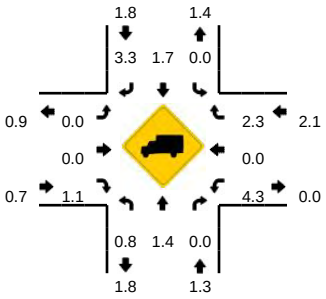
CITY/STATE: Bay Point, CA

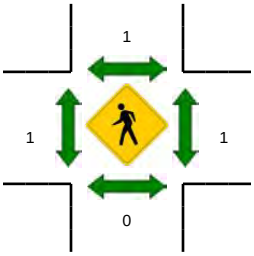
DATE: Thu, Jun 13 2013

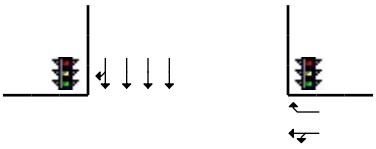


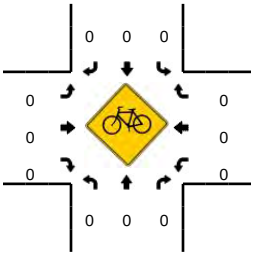
Peak-Hour: 5:00 PM -- 6:00 PM

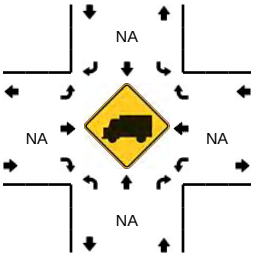
Peak 15-Min: 5:45 PM -- 6:00 PM

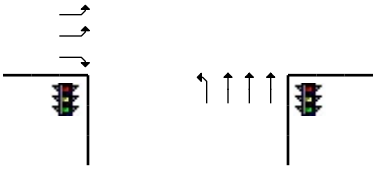


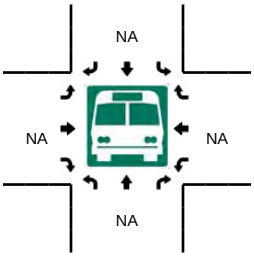












15-Min Count Period Beginning At	Willow Pass Rd (Northbound)				Willow Pass Rd (Southbound)				Evora Rd (East)/SR 4 WB Off-Ramp (Eastbound)				Evora Rd (East)/SR 4 WB Off-Ramp (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	19	175	0	1	0	126	7	2	13	0	19	0	11	11	42	0	426	
4:15 PM	29	214	0	2	0	141	3	0	6	0	19	0	10	12	29	0	465	
4:30 PM	25	194	0	0	0	138	4	0	16	0	23	0	9	10	35	0	454	
4:45 PM	41	224	0	0	0	119	5	0	17	0	25	0	21	11	44	0	507	1852
5:00 PM	28	223	0	1	0	140	6	0	6	0	21	0	14	19	29	0	487	1913
5:15 PM	33	226	0	1	0	134	7	0	17	0	33	0	17	12	25	0	505	1953
5:30 PM	34	229	0	0	0	132	6	0	16	0	17	0	7	16	36	0	493	1992
5:45 PM	28	248	0	0	0	128	11	0	19	0	21	0	9	11	39	0	514	1999

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	112	992	0	0	0	512	44	0	76	0	84	0	36	44	156	0	2056
Heavy Trucks	0	12	0		0	8	4		0	0	0		4	0	4		32
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

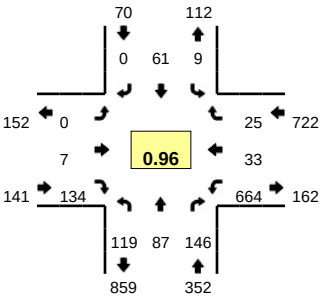
Type of peak hour being reported: Intersection Peak

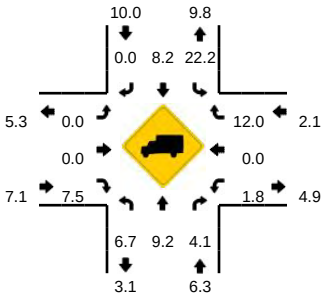
Method for determining peak hour: Total Entering Volume

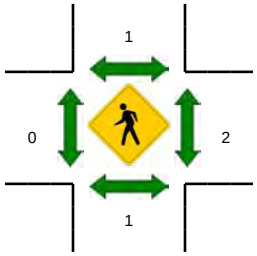
LOCATION: Willow Pass Rd -- Evora Rd (West)
CITY/STATE: Concord, CA

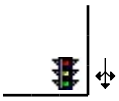
QC JOB #: 10976529
DATE: Wed, Jun 12 2013

Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

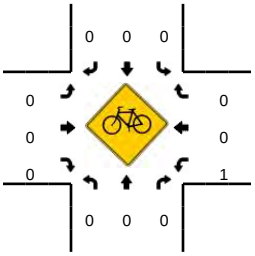


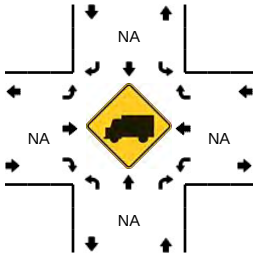


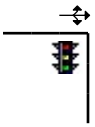




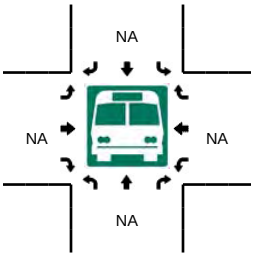












15-Min Count Period Beginning At	Willow Pass Rd (Northbound)				Willow Pass Rd (Southbound)				Evora Rd (West) (Eastbound)				Evora Rd (West) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	23	10	18	1	3	13	1	0	0	2	25	0	157	7	7	0	267	
7:15 AM	33	8	25	0	2	13	0	0	0	1	24	0	167	8	6	0	287	
7:30 AM	25	21	50	0	0	19	0	0	0	3	39	0	161	10	5	0	333	
7:45 AM	35	31	38	0	1	13	0	0	0	1	36	0	164	6	7	0	332	1219
8:00 AM	26	27	33	0	6	16	0	0	0	2	35	0	172	9	7	0	333	1285
8:15 AM	33	25	34	0	1	19	0	0	0	0	33	0	93	5	2	0	245	1243
8:30 AM	17	21	38	1	3	14	0	0	0	2	30	0	66	7	3	0	202	1112
8:45 AM	22	18	28	0	2	18	0	0	1	1	24	0	69	6	6	0	195	975

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	100	84	200	0	0	76	0	0	0	12	156	0	644	40	20	0	1332
Heavy Trucks	8	4	8		0	8	0		0	0	12		24	0	4		68
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		1	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

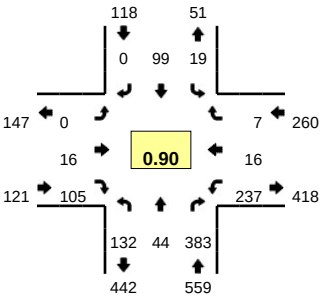
Type of peak hour being reported: Intersection Peak

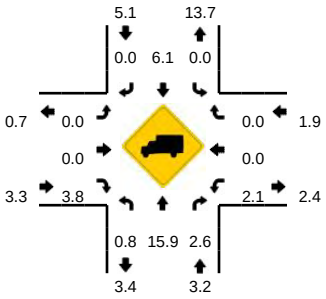
Method for determining peak hour: Total Entering Volume

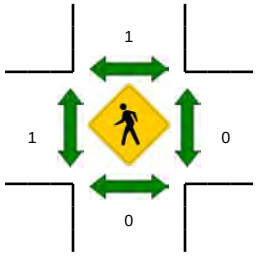
LOCATION: Willow Pass Rd -- Evora Rd (West)
CITY/STATE: Concord, CA

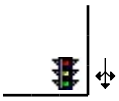
QC JOB #: 10976530
DATE: Wed, Jun 12 2013

Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 4:45 PM -- 5:00 PM

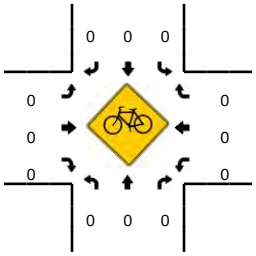


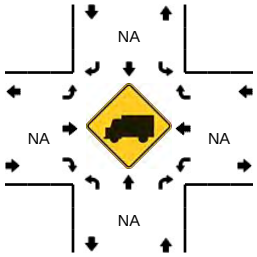


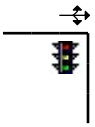




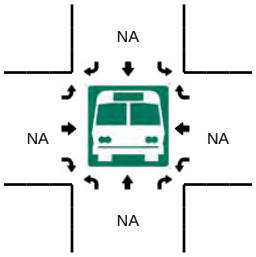












15-Min Count Period Beginning At	Willow Pass Rd (Northbound)				Willow Pass Rd (Southbound)				Evora Rd (West) (Eastbound)				Evora Rd (West) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	30	8	81	0	6	24	0	0	0	6	21	0	48	3	1	0	228	
4:15 PM	28	11	109	1	0	19	0	0	0	1	27	0	56	2	1	0	255	
4:30 PM	28	15	79	0	6	24	0	0	0	5	23	0	55	3	2	0	240	
4:45 PM	43	11	103	0	2	21	0	0	0	9	25	0	71	5	3	0	293	1016
5:00 PM	32	7	92	0	11	35	0	0	0	1	30	0	55	6	1	0	270	1058
5:15 PM	29	11	80	0	6	20	0	0	0	4	24	0	46	3	3	0	226	1029
5:30 PM	24	8	104	1	6	26	0	0	0	6	14	0	54	1	3	0	247	1036
5:45 PM	22	11	102	0	6	19	0	0	0	4	22	0	60	3	6	0	255	998

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	172	44	412	0	8	84	0	0	0	36	100	0	284	20	12	0	1172
Heavy Trucks	0	16	8		0	4	0		0	0	4		4	0	0		36
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Willow Pass Rd -- Avila Rd

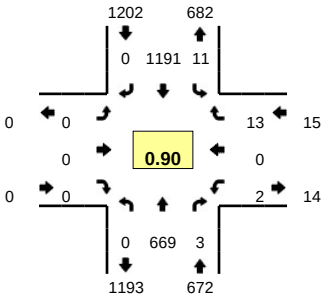
QC JOB #: 10976531

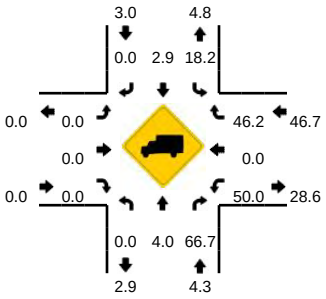
CITY/STATE: Concord, CA

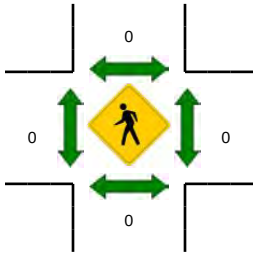
DATE: Wed, Jun 12 2013

Peak-Hour: 7:30 AM -- 8:30 AM

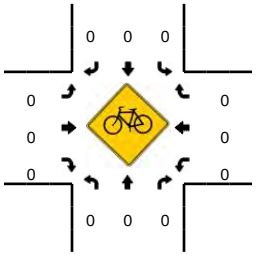
Peak 15-Min: 7:45 AM -- 8:00 AM

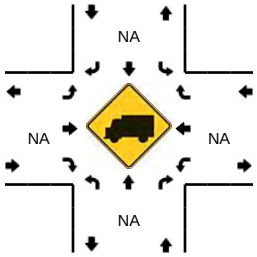




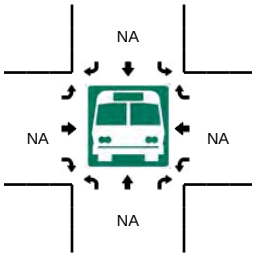












15-Min Count Period Beginning At	Willow Pass Rd (Northbound)				Willow Pass Rd (Southbound)				Avila Rd (Eastbound)				Avila Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	98	1	0	6	217	0	0	0	0	0	0	1	0	5	0	328	
7:15 AM	0	97	0	0	3	267	0	0	0	0	0	0	0	0	10	0	377	
7:30 AM	0	165	0	0	4	299	0	0	0	0	0	0	0	0	3	0	471	
7:45 AM	0	164	1	0	3	353	0	0	0	0	0	0	0	0	4	0	525	1701
8:00 AM	0	163	2	0	2	300	0	0	0	0	0	0	2	0	3	0	472	1845
8:15 AM	0	177	0	0	2	239	0	0	0	0	0	0	0	0	3	0	421	1889
8:30 AM	0	117	1	0	5	167	0	0	0	0	0	0	0	0	3	0	293	1711
8:45 AM	0	108	0	1	2	117	0	0	0	0	0	0	0	0	2	0	230	1416

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	656	4	0	12	1412	0	0	0	0	0	0	0	0	16	0	2100
Heavy Trucks	0	36	0		0	32	0		0	0	0		0	0	8		76
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Willow Pass Rd -- Avila Rd

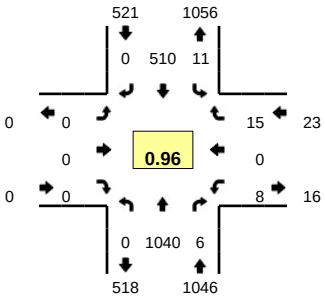
QC JOB #: 10976532

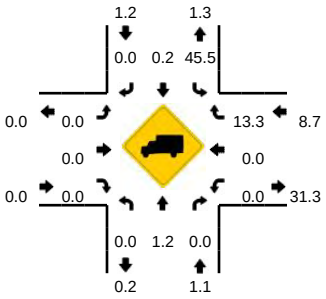
CITY/STATE: Concord, CA

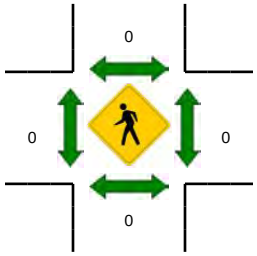
DATE: Wed, Jun 12 2013

Peak-Hour: 5:00 PM -- 6:00 PM

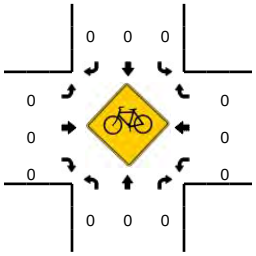
Peak 15-Min: 5:00 PM -- 5:15 PM

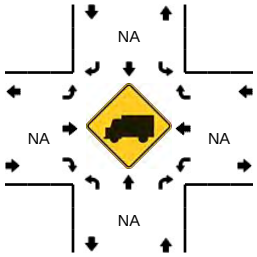




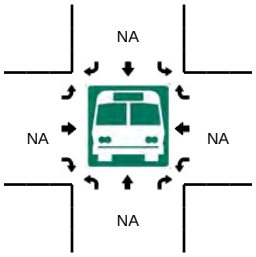












15-Min Count Period Beginning At	Willow Pass Rd (Northbound)				Willow Pass Rd (Southbound)				Avila Rd (Eastbound)				Avila Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	194	2	0	2	133	0	0	0	0	0	0	1	0	5	0	337	
4:15 PM	0	245	1	0	4	131	0	0	0	0	0	0	0	0	0	0	381	
4:30 PM	0	228	4	0	3	152	0	0	0	0	0	0	3	0	2	0	392	
4:45 PM	0	217	12	0	4	132	0	0	0	0	0	0	1	0	4	0	370	1480
5:00 PM	0	254	3	0	3	149	0	0	0	0	0	0	1	0	4	0	414	1557
5:15 PM	0	284	1	0	2	111	0	0	0	0	0	0	3	0	4	0	405	1581
5:30 PM	0	247	0	0	4	137	0	1	0	0	0	0	2	0	2	0	393	1582
5:45 PM	0	255	2	0	1	113	0	0	0	0	0	0	2	0	5	0	378	1590

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1016	12	0	12	596	0	0	0	0	0	0	4	0	16	0	1656
Heavy Trucks	0	12	0		8	0	0		0	0	0		0	0	0		20
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

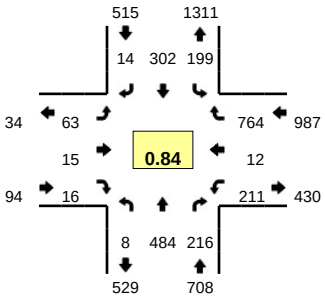
LOCATION: San Marco Blvd -- W Leland Rd

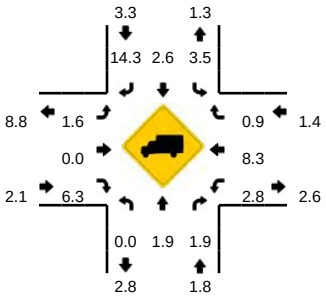
QC JOB #: 10976533

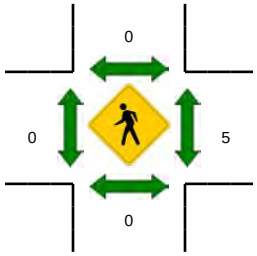
CITY/STATE: Pittsburg, CA

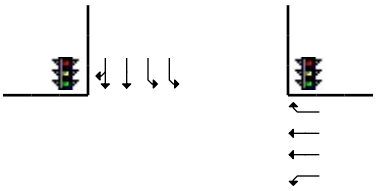
DATE: Thu, Jun 13 2013

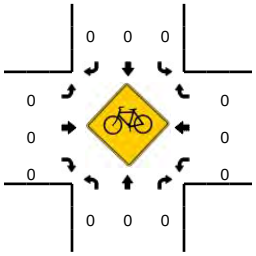
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

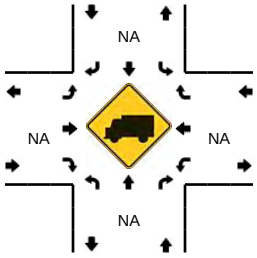




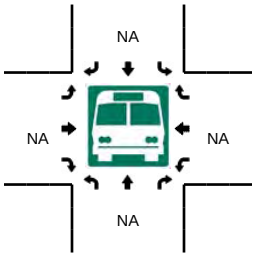












15-Min Count Period Beginning At	San Marco Blvd (Northbound)				San Marco Blvd (Southbound)				W Leland Rd (Eastbound)				W Leland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	65	24	0	49	27	2	0	11	8	0	0	18	1	200	1	406	
7:15 AM	1	72	23	0	39	30	2	0	13	6	2	0	32	3	223	0	446	
7:30 AM	0	119	43	0	47	121	5	0	22	2	6	0	82	4	238	0	689	
7:45 AM	3	136	56	0	60	106	4	0	16	3	8	0	80	3	181	0	656	2197
8:00 AM	4	157	94	0	53	45	3	0	12	4	0	0	17	2	122	0	513	2304
8:15 AM	0	48	15	0	56	29	6	0	23	3	1	0	24	5	96	0	306	2164
8:30 AM	0	45	14	0	37	22	5	0	14	3	2	0	14	3	102	0	261	1736
8:45 AM	0	41	9	0	34	36	3	0	6	3	0	0	11	1	74	0	218	1298

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	476	172	0	188	484	20	0	88	8	24	0	328	16	952	0	2756
Heavy Trucks	0	12	0		16	16	0		0	0	0		16	0	12		72
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: San Marco Blvd -- W Leland Rd

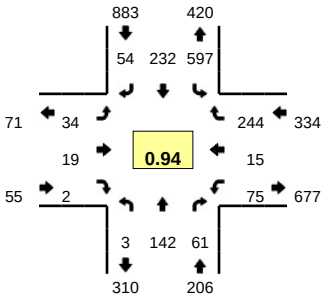
CITY/STATE: Pittsburg, CA

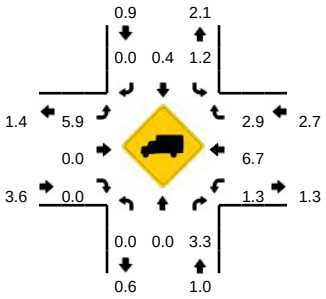
QC JOB #: 10976534

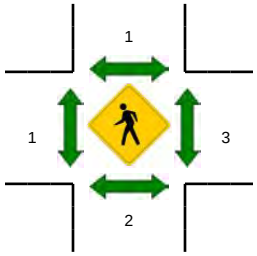
DATE: Thu, Jun 13 2013

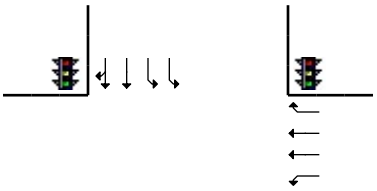
Peak-Hour: 5:00 PM -- 6:00 PM

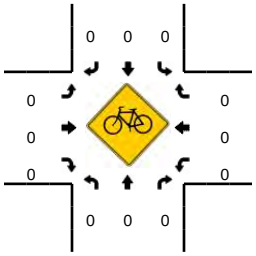
Peak 15-Min: 5:30 PM -- 5:45 PM

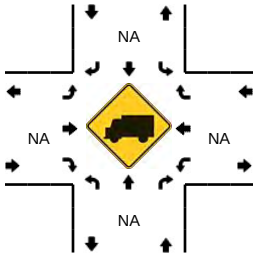


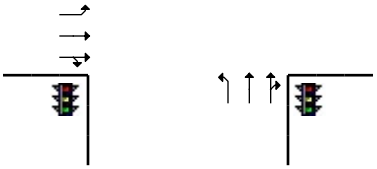


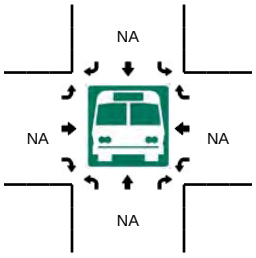












15-Min Count Period Beginning At	San Marco Blvd (Northbound)				San Marco Blvd (Southbound)				W Leland Rd (Eastbound)				W Leland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	24	11	0	119	53	12	0	5	2	0	0	13	2	59	0	300	
4:15 PM	1	31	15	0	126	40	11	0	6	4	1	0	14	4	45	0	298	
4:30 PM	0	35	13	1	145	46	16	0	7	3	1	0	17	5	63	1	353	
4:45 PM	1	32	13	0	127	54	12	0	7	5	1	0	11	5	60	0	328	1279
5:00 PM	1	29	13	0	139	51	12	0	8	5	0	0	18	4	72	0	352	1331
5:15 PM	0	29	11	0	143	61	20	0	10	4	1	0	15	4	59	0	357	1390
5:30 PM	0	48	20	0	155	62	14	0	7	4	1	0	22	4	57	0	394	1431
5:45 PM	1	36	17	1	160	58	8	0	9	6	0	0	20	3	56	0	375	1478

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	192	80	0	620	248	56	0	28	16	4	0	88	16	228	0	1576
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	0	4		8
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

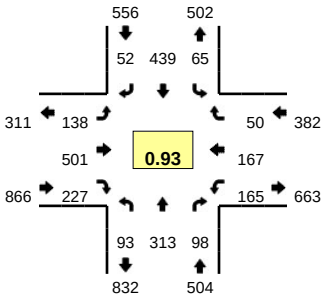
LOCATION: Railroad Ave -- Leland Rd

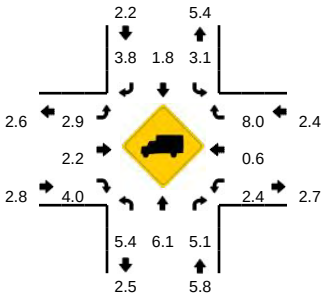
CITY/STATE: Pittsburg, CA

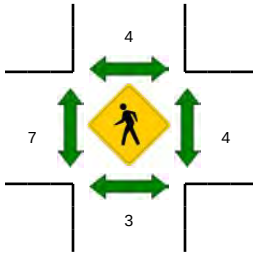
QC JOB #: 10976535

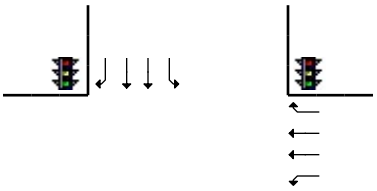
DATE: Thu, Jun 13 2013

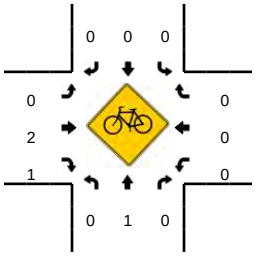
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:00 AM -- 7:15 AM

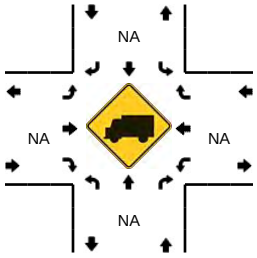


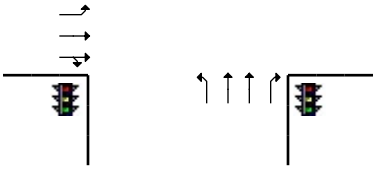


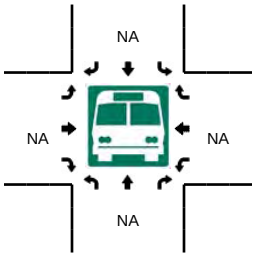












15-Min Count Period Beginning At	Railroad Ave (Northbound)				Railroad Ave (Southbound)				Leland Rd (Eastbound)				Leland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	16	64	26	0	16	108	11	0	49	186	74	0	34	27	8	0	619	
7:15 AM	23	72	23	0	9	102	5	0	39	129	51	0	50	45	15	0	563	
7:30 AM	17	80	31	1	21	109	15	1	25	115	61	0	25	35	12	0	548	
7:45 AM	36	97	18	0	18	120	21	0	25	71	41	0	56	60	15	0	578	2308
8:00 AM	20	88	13	0	17	108	9	0	18	60	48	0	42	45	15	0	483	2172
8:15 AM	36	93	23	0	16	126	13	1	18	51	27	0	57	60	25	0	546	2155
8:30 AM	46	108	30	0	23	136	8	1	15	41	52	0	39	52	15	0	566	2173
8:45 AM	33	93	34	0	11	97	20	1	19	56	34	0	64	57	18	0	537	2132

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	64	256	104	0	64	432	44	0	196	744	296	0	136	108	32	0	2476
Heavy Trucks	4	16	8		0	0	0		0	16	16		4	0	0		64
Pedestrians		4				4				4				0			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Railroad Ave -- Leland Rd

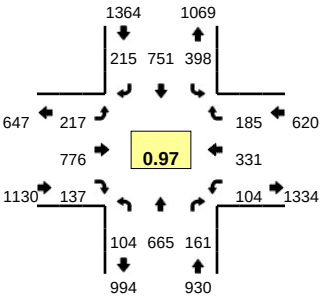
CITY/STATE: Pittsburg, CA

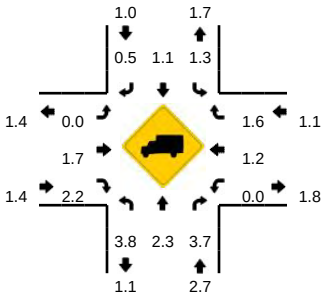
QC JOB #: 10976536

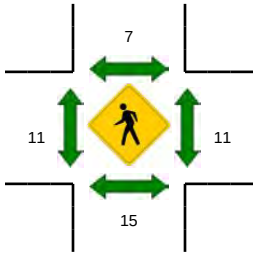
DATE: Wed, Jun 12 2013

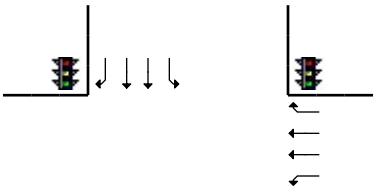
Peak-Hour: 5:00 PM -- 6:00 PM

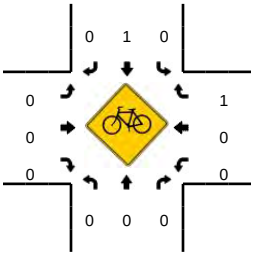
Peak 15-Min: 5:45 PM -- 6:00 PM

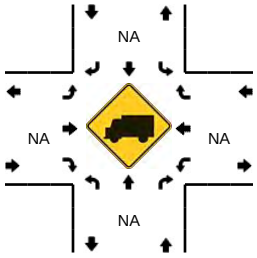


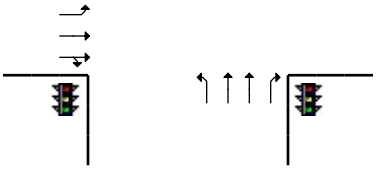


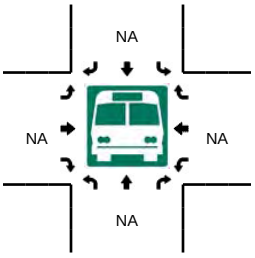












15-Min Count Period Beginning At	Railroad Ave (Northbound)				Railroad Ave (Southbound)				Leland Rd (Eastbound)				Leland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	23	119	38	3	88	169	42	0	50	196	38	0	37	82	42	0	927	
4:15 PM	33	132	38	2	124	200	62	0	38	170	38	0	18	64	31	0	950	
4:30 PM	25	159	40	0	100	169	53	0	39	184	50	0	26	86	43	1	975	
4:45 PM	32	157	49	1	114	163	47	1	37	171	30	0	20	69	38	0	929	3781
5:00 PM	24	155	33	0	98	192	54	0	57	186	28	0	27	96	45	0	995	3849
5:15 PM	25	165	31	1	106	174	50	0	56	201	35	0	23	75	56	1	999	3898
5:30 PM	25	174	42	2	102	185	62	0	49	182	34	0	28	83	38	0	1006	3929
5:45 PM	27	171	55	0	90	200	49	2	55	207	40	0	25	77	46	0	1044	4044

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	108	684	220	0	360	800	196	8	220	828	160	0	100	308	184	0	4176
Heavy Trucks	12	16	4		4	4	0		0	4	4		0	4	0		52
Pedestrians		28				16				24				4			72
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

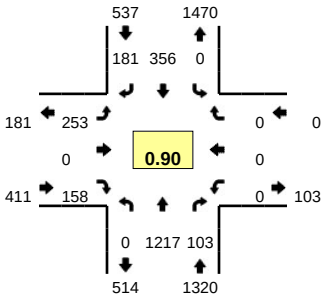
Method for determining peak hour: Total Entering Volume

LOCATION: Willow Pass Rd/San Marco Blvd -- SR 4 EB Ramps

QC JOB #: 10976539

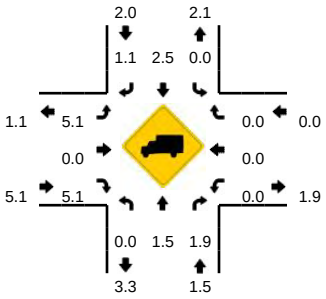
CITY/STATE: Bay Point, CA

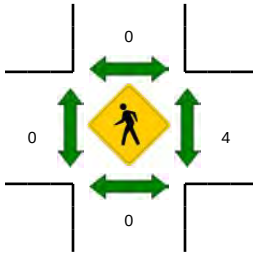
DATE: Thu, Jun 13 2013

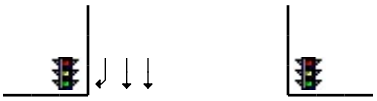


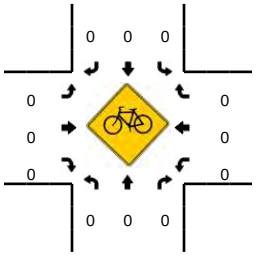
Peak-Hour: 7:15 AM -- 8:15 AM

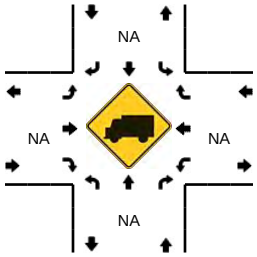
Peak 15-Min: 7:30 AM -- 7:45 AM

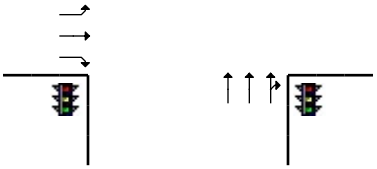


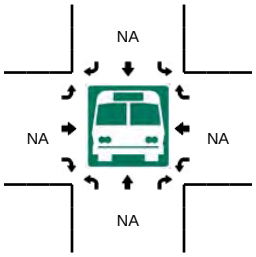












15-Min Count Period Beginning At	Willow Pass Rd/San Marco Blvd (Northbound)				Willow Pass Rd/San Marco Blvd (Southbound)				SR 4 EB Ramps (Eastbound)				SR 4 EB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	258	20	0	0	38	19	0	50	0	37	0	0	0	0	0	422	
7:15 AM	0	300	13	0	0	40	36	0	58	0	37	0	0	0	0	0	484	
7:30 AM	0	361	24	0	0	122	33	0	48	0	42	0	0	0	0	0	630	
7:45 AM	0	298	29	0	0	138	60	0	61	0	33	0	0	0	0	0	619	2155
8:00 AM	0	258	37	0	0	56	52	0	86	0	46	0	0	0	0	0	535	2268
8:15 AM	0	147	13	0	0	38	53	0	101	0	56	0	0	0	0	0	408	2192
8:30 AM	0	150	11	0	0	18	48	0	63	0	45	0	0	0	0	0	335	1897
8:45 AM	0	112	11	0	0	26	37	0	63	1	45	0	0	0	0	0	295	1573

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	1444	96	0	0	488	132	0	192	0	168	0	0	0	0	0	2520
Heavy Trucks	0	32	0		0	20	0		16	0	0		0	0	0		68
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Willow Pass Rd/San Marco Blvd -- SR 4 EB Ramps

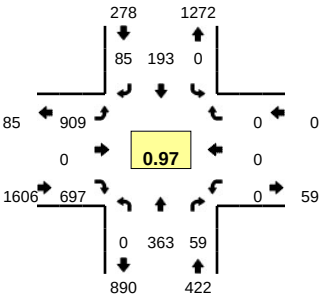
QC JOB #: 10976540

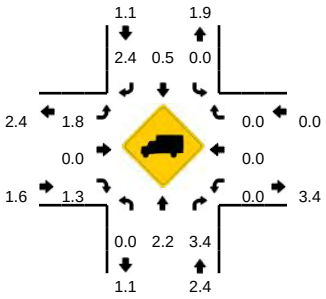
CITY/STATE: Bay Point, CA

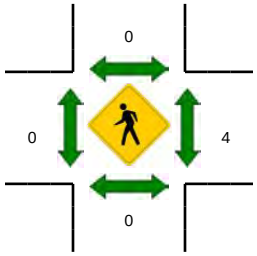
DATE: Thu, Jun 13 2013

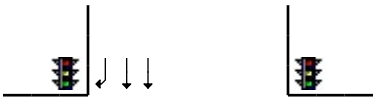
Peak-Hour: 5:00 PM -- 6:00 PM

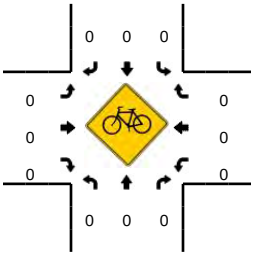
Peak 15-Min: 5:30 PM -- 5:45 PM

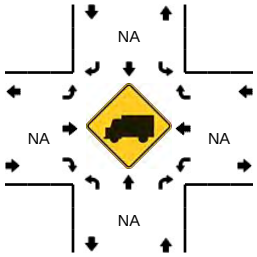


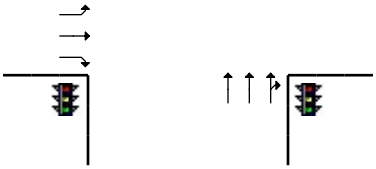


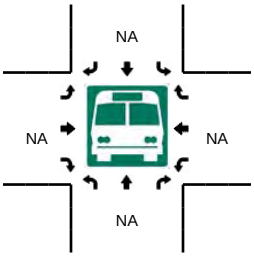












15-Min Count Period Beginning At	Willow Pass Rd/San Marco Blvd (Northbound)				Willow Pass Rd/San Marco Blvd (Southbound)				SR 4 EB Ramps (Eastbound)				SR 4 EB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	80	5	0	0	34	18	0	157	0	149	0	0	0	0	0	443	
4:15 PM	0	80	9	0	0	41	19	0	202	0	138	0	0	0	0	0	489	
4:30 PM	0	88	10	0	0	37	18	0	198	0	167	0	0	0	0	0	518	
4:45 PM	0	90	12	0	0	54	20	0	226	0	139	0	0	0	0	0	541	1991
5:00 PM	0	88	21	0	0	50	16	0	228	0	163	0	0	0	0	0	566	2114
5:15 PM	0	89	10	0	0	47	31	0	223	0	176	0	0	0	0	0	576	2201
5:30 PM	0	91	16	0	0	45	17	0	238	0	185	0	0	0	0	0	592	2275
5:45 PM	0	95	12	0	0	51	21	0	220	0	173	0	0	0	0	0	572	2306

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	364	64	0	0	180	68	0	952	0	740	0	0	0	0	0	2368
Heavy Trucks	0	8	0		0	0	4		16	0	16		0	0	0		44
Pedestrians		0				0				0				12			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Bailey Rd -- SR 4 EB Ramps/Bart Station

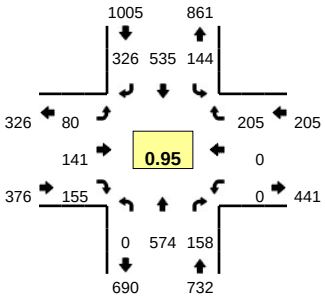
CITY/STATE: Bay Point, CA

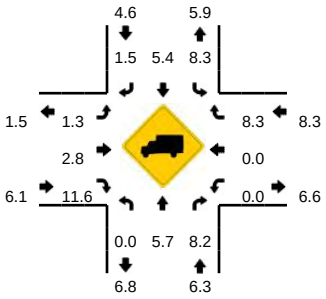
QC JOB #: 10976541

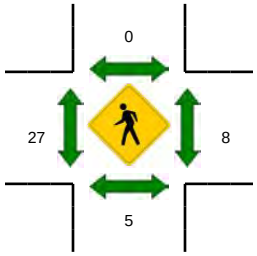
DATE: Thu, Jun 13 2013

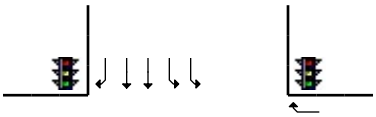
Peak-Hour: 7:15 AM -- 8:15 AM

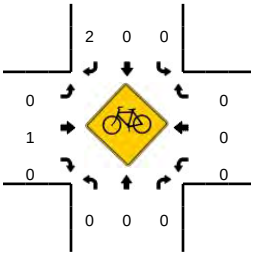
Peak 15-Min: 7:45 AM -- 8:00 AM

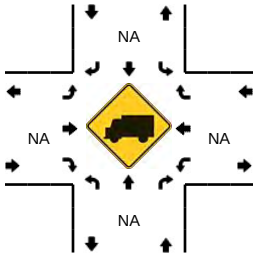




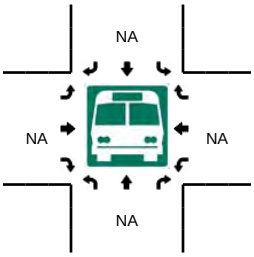












15-Min Count Period Beginning At	Bailey Rd (Northbound)				Bailey Rd (Southbound)				SR 4 EB Ramps/Bart Station (Eastbound)				SR 4 EB Ramps/Bart Station (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	131	30	0	21	93	140	0	25	35	22	0	0	0	31	0	528	
7:15 AM	0	148	26	0	19	126	120	1	19	34	31	0	0	0	40	0	564	
7:30 AM	0	162	42	0	37	130	73	0	16	42	42	0	0	0	41	0	585	
7:45 AM	0	124	52	0	41	142	74	1	29	36	40	0	0	0	72	0	611	2288
8:00 AM	0	140	38	0	45	137	59	0	16	29	42	0	0	0	52	0	558	2318
8:15 AM	0	129	42	0	52	121	50	0	10	25	46	0	0	0	55	0	530	2284
8:30 AM	0	121	38	0	43	101	42	0	13	21	35	0	0	0	31	0	445	2144
8:45 AM	0	133	59	0	44	104	36	2	13	23	50	0	0	0	49	0	513	2046

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	496	208	0	164	568	296	4	116	144	160	0	0	0	288	0	2444
Heavy Trucks	0	28	24		16	24	0		4	4	20		0	0	36		156
Pedestrians		12				0				16				12			40
Bicycles	0	0	0		0	0	1		0	1	0		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

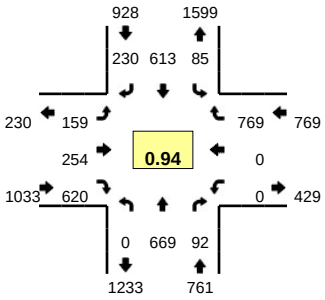
LOCATION: Bailey Rd -- SR 4 EB Ramps/Bart Station

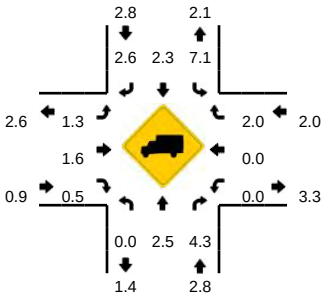
QC JOB #: 10976542

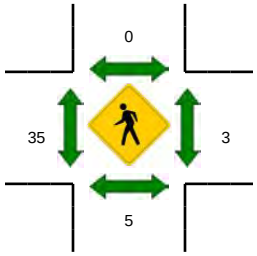
CITY/STATE: Bay Point, CA

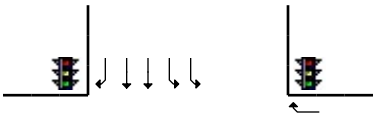
DATE: Wed, Jun 12 2013

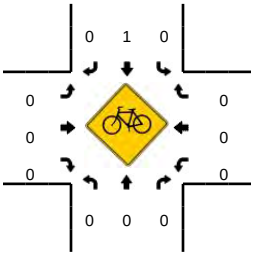
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

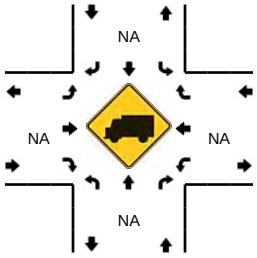




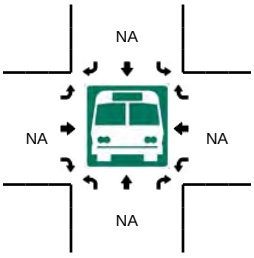












15-Min Count Period Beginning At	Bailey Rd (Northbound)				Bailey Rd (Southbound)				SR 4 EB Ramps/Bart Station (Eastbound)				SR 4 EB Ramps/Bart Station (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	138	29	0	18	138	38	0	19	46	145	0	0	0	181	0	752	
4:15 PM	0	154	22	0	23	137	50	0	19	40	128	0	0	0	163	0	736	
4:30 PM	0	160	23	0	20	130	45	0	29	42	160	0	0	0	151	0	760	
4:45 PM	0	188	20	0	25	142	43	1	25	47	146	0	0	0	188	0	825	3073
5:00 PM	0	167	26	0	26	127	59	1	30	61	165	0	0	0	182	0	844	3165
5:15 PM	0	167	22	0	26	176	42	0	30	56	141	0	0	0	179	0	839	3268
5:30 PM	0	167	19	0	18	139	78	0	54	74	169	0	0	0	211	0	929	3437
5:45 PM	0	168	25	0	13	171	51	1	45	63	145	0	0	0	197	0	879	3491

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	668	76	0	72	556	312	0	216	296	676	0	0	0	844	0	3716
Heavy Trucks	0	28	0		8	8	12		0	4	0		0	0	12		72
Pedestrians		0				0				36				0			36
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Willow Pass Rd -- SR 4 EB Ramps

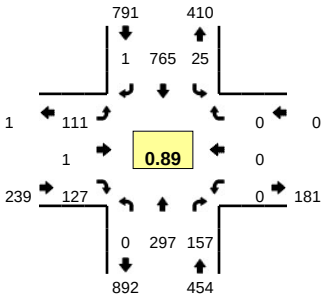
CITY/STATE: Bay Point, CA

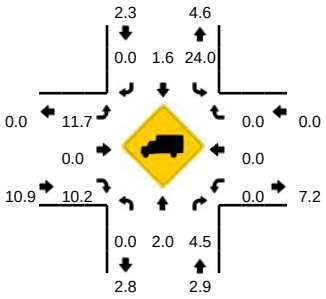
QC JOB #: 10976543

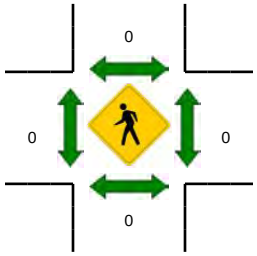
DATE: Tue, Jun 18 2013

Peak-Hour: 7:30 AM -- 8:30 AM

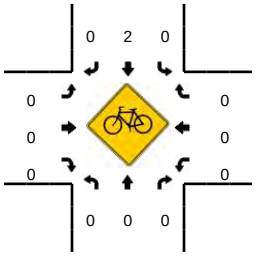
Peak 15-Min: 7:45 AM -- 8:00 AM

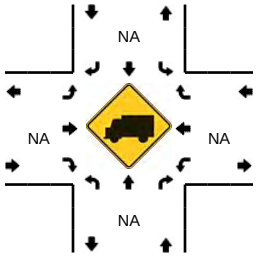


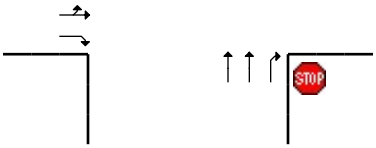


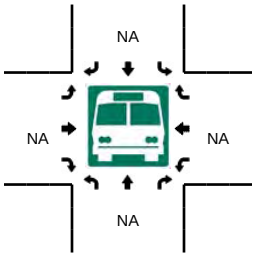












15-Min Count Period Beginning At	Willow Pass Rd (Northbound)				Willow Pass Rd (Southbound)				SR 4 EB Ramps (Eastbound)				SR 4 EB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	65	35	0	6	141	0	0	13	0	35	0	0	0	0	0	295	
7:15 AM	0	68	37	0	1	162	0	0	18	0	29	0	0	0	0	0	315	
7:30 AM	0	70	42	0	5	217	1	0	31	0	27	0	0	0	0	0	393	
7:45 AM	0	104	44	0	5	201	0	0	29	1	31	0	0	0	0	0	415	1418
8:00 AM	0	58	43	0	7	168	0	2	21	0	27	0	0	0	0	0	326	1449
8:15 AM	0	65	28	0	6	179	0	0	30	0	42	0	0	0	0	0	350	1484
8:30 AM	0	71	47	1	6	175	0	0	31	0	34	0	0	0	0	0	365	1456
8:45 AM	0	64	29	0	7	141	0	0	27	0	32	0	0	0	0	0	300	1341

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	416	176	0	20	804	0	0	116	4	124	0	0	0	0	0	1660
Heavy Trucks	0	12	8		12	4	0		8	0	4		0	0	0		48
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

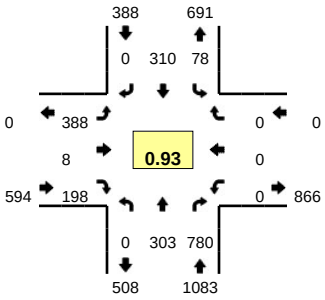
Method for determining peak hour: Total Entering Volume

LOCATION: Willow Pass Rd -- SR 4 EB Ramps

QC JOB #: 10976544

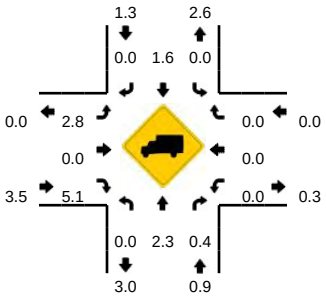
CITY/STATE: Bay Point, CA

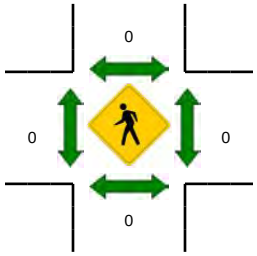
DATE: Tue, Jun 18 2013



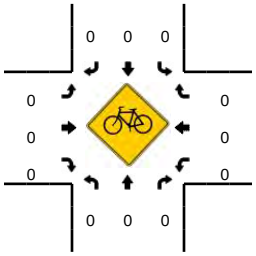
Peak-Hour: 5:00 PM -- 6:00 PM

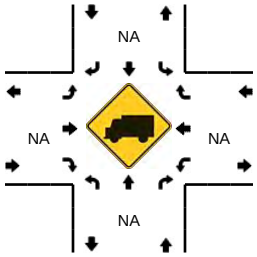
Peak 15-Min: 5:15 PM -- 5:30 PM

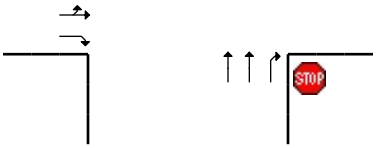


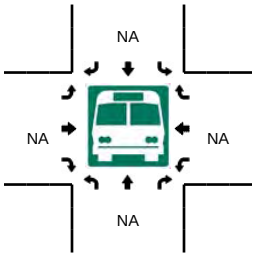












15-Min Count Period Beginning At	Willow Pass Rd (Northbound)				Willow Pass Rd (Southbound)				SR 4 EB Ramps (Eastbound)				SR 4 EB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	78	133	0	25	80	0	0	68	0	72	0	0	0	0	0	456	
4:15 PM	0	82	160	0	13	76	0	0	77	1	76	0	0	0	0	0	485	
4:30 PM	0	79	152	0	18	75	0	0	84	1	59	0	0	0	0	0	468	
4:45 PM	0	71	152	0	16	72	0	0	78	1	66	0	0	0	0	0	456	1865
5:00 PM	0	79	193	0	24	83	0	0	89	3	47	0	0	0	0	0	518	1927
5:15 PM	0	88	210	0	19	83	0	0	103	1	49	0	0	0	0	0	553	1995
5:30 PM	0	58	194	0	22	78	0	0	99	2	56	0	0	0	0	0	509	2036
5:45 PM	0	78	183	0	13	66	0	0	97	2	46	0	0	0	0	0	485	2065

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	352	840	0	76	332	0	0	412	4	196	0	0	0	0	0	2212
Heavy Trucks	0	8	4		0	0	0		12	0	4		0	0	0		28
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Willow Pass Rd -- SR 4 WB Ramps

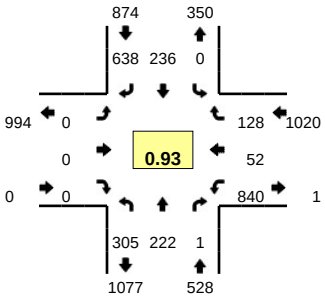
QC JOB #: 10976545

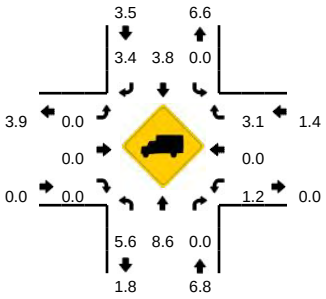
CITY/STATE: Bay Point, CA

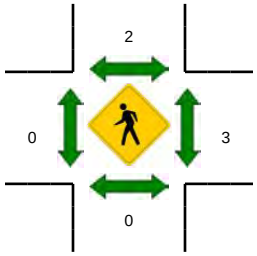
DATE: Wed, Jun 12 2013

Peak-Hour: 7:15 AM -- 8:15 AM

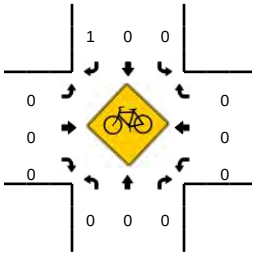
Peak 15-Min: 7:45 AM -- 8:00 AM

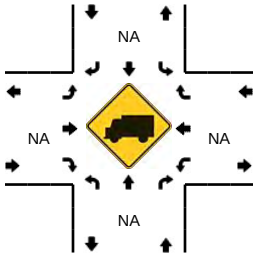




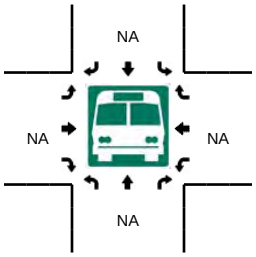












15-Min Count Period Beginning At	Willow Pass Rd (Northbound)				Willow Pass Rd (Southbound)				SR 4 WB Ramps (Eastbound)				SR 4 WB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	66	26	1	1	0	43	149	0	0	0	0	0	149	13	24	0	472	
7:15 AM	62	40	1	0	0	52	166	0	0	0	0	0	199	10	27	0	557	
7:30 AM	90	66	0	0	0	59	161	0	0	0	0	0	202	12	31	0	621	
7:45 AM	84	57	0	0	0	61	155	0	0	0	0	0	233	18	44	0	652	2302
8:00 AM	68	59	0	1	0	64	156	0	0	0	0	0	206	12	26	0	592	2422
8:15 AM	81	60	0	0	0	45	102	0	0	0	0	0	161	17	33	0	499	2364
8:30 AM	50	59	0	0	0	24	86	0	0	0	0	0	109	3	21	0	352	2095
8:45 AM	61	41	0	0	0	21	87	0	0	0	0	0	69	1	23	0	303	1746

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	336	228	0	0	0	244	620	0	0	0	0	0	932	72	176	0	2608
Heavy Trucks	16	20	0		0	4	20		0	0	0		8	0	4		72
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Willow Pass Rd -- SR 4 WB Ramps

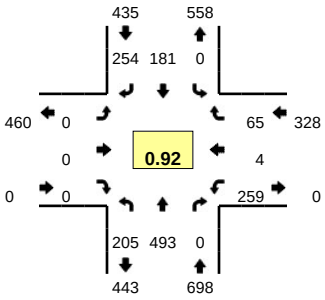
QC JOB #: 10976546

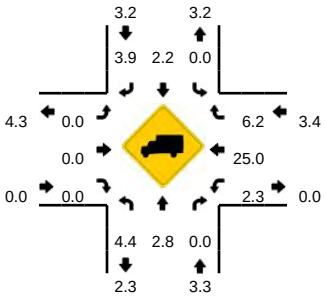
CITY/STATE: Bay Point, CA

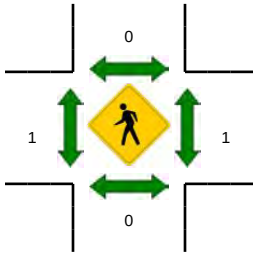
DATE: Wed, Jun 12 2013

Peak-Hour: 4:15 PM -- 5:15 PM

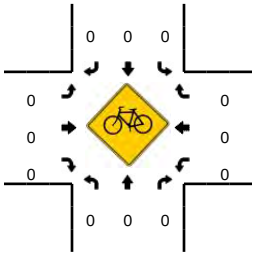
Peak 15-Min: 4:45 PM -- 5:00 PM

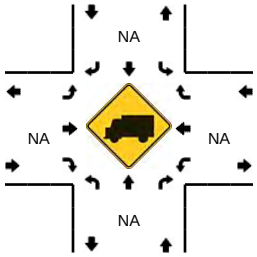




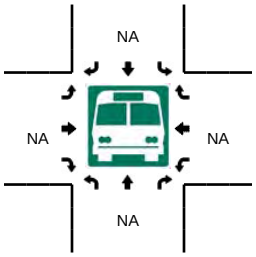












15-Min Count Period Beginning At	Willow Pass Rd (Northbound)				Willow Pass Rd (Southbound)				SR 4 WB Ramps (Eastbound)				SR 4 WB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	49	97	0	2	0	31	62	0	0	0	0	0	49	0	22	0	312	
4:15 PM	57	131	0	2	0	34	66	0	0	0	0	0	53	1	17	0	361	
4:30 PM	48	109	0	0	0	46	54	0	0	0	0	0	70	1	14	0	342	
4:45 PM	52	134	0	1	0	46	72	0	0	0	0	0	67	2	24	0	398	1413
5:00 PM	45	119	0	0	0	55	62	0	0	0	0	0	69	0	10	0	360	1461
5:15 PM	50	110	0	4	0	35	57	0	0	0	0	0	43	0	9	0	308	1408
5:30 PM	38	127	0	0	0	38	56	0	0	0	0	0	85	0	11	0	355	1421
5:45 PM	44	117	0	2	0	33	63	0	0	0	0	0	45	0	17	0	321	1344

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	208	536	0	4	0	184	288	0	0	0	0	0	268	8	96	0	1592
Heavy Trucks	12	20	0		0	4	8		0	0	0		12	0	4		60
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Ayers Rd -- Ygnacio Valley Rd

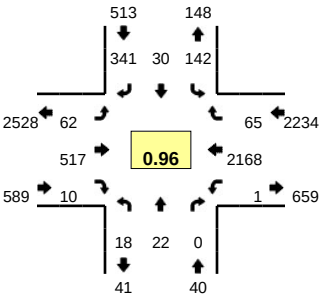
CITY/STATE: Concord, CA

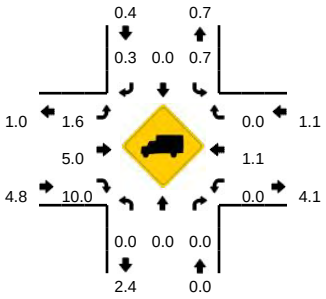
QC JOB #: 10976547

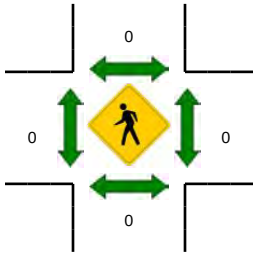
DATE: Wed, Jun 12 2013

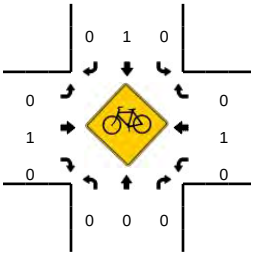
Peak-Hour: 7:00 AM -- 8:00 AM

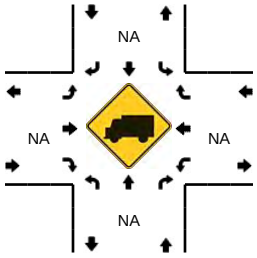
Peak 15-Min: 7:30 AM -- 7:45 AM

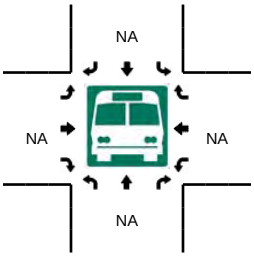


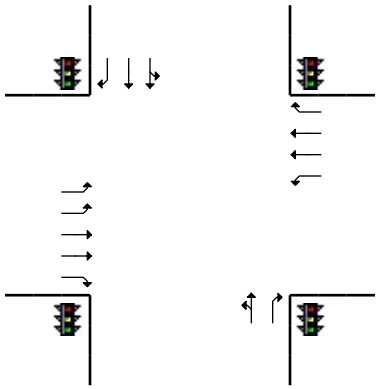












15-Min Count Period Beginning At	Ayers Rd (Northbound)				Ayers Rd (Southbound)				Ygnacio Valley Rd (Eastbound)				Ygnacio Valley Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	0	0	12	1	95	0	7	83	1	0	0	619	6	0	825	
7:15 AM	2	2	0	0	21	0	93	0	17	103	0	0	0	593	7	0	838	
7:30 AM	9	14	0	0	53	7	95	0	18	159	4	0	0	499	20	0	878	
7:45 AM	6	6	0	0	56	22	58	0	19	172	5	1	1	457	32	0	835	3376
8:00 AM	2	3	1	0	20	0	63	0	24	194	0	0	1	449	47	0	804	3355
8:15 AM	2	0	1	0	25	1	69	0	25	195	3	0	3	414	16	0	754	3271
8:30 AM	1	0	1	0	26	1	67	0	14	202	2	0	0	475	16	0	805	3198
8:45 AM	2	0	1	0	13	3	61	0	19	127	6	0	3	399	13	1	648	3011

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	36	56	0	0	212	28	380	0	72	636	16	0	0	1996	80	0	3512
Heavy Trucks	0	0	0		4	0	0		0	36	0		0	28	0		68
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Ayers Rd -- Ygnacio Valley Rd

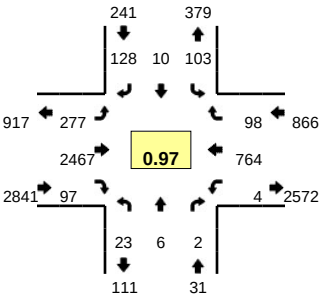
CITY/STATE: Concord, CA

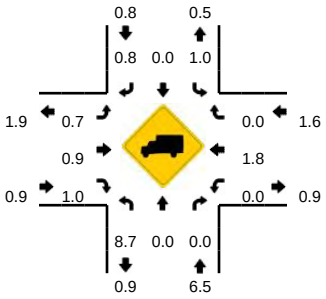
QC JOB #: 10976548

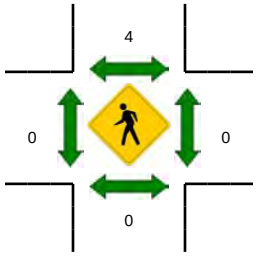
DATE: Wed, Jun 12 2013

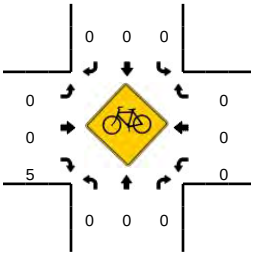
Peak-Hour: 5:00 PM -- 6:00 PM

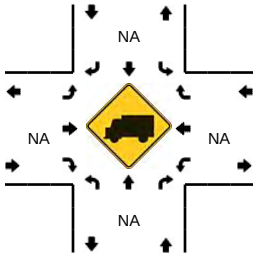
Peak 15-Min: 5:45 PM -- 6:00 PM

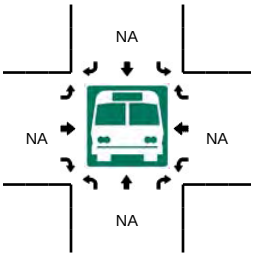


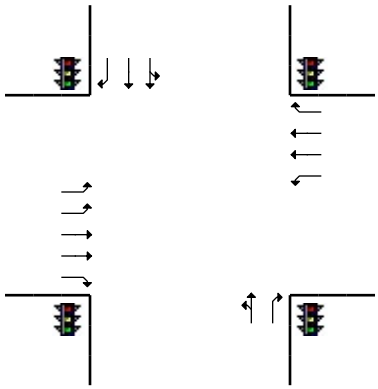












15-Min Count Period Beginning At	Ayers Rd (Northbound)				Ayers Rd (Southbound)				Ygnacio Valley Rd (Eastbound)				Ygnacio Valley Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	2	1	0	11	3	31	0	66	533	11	0	0	191	24	0	874	
4:15 PM	12	1	2	0	21	2	34	0	62	543	13	0	1	173	12	0	876	
4:30 PM	13	2	1	0	31	0	28	0	69	603	9	0	0	198	16	0	970	
4:45 PM	12	2	0	0	20	1	33	0	58	598	12	0	2	191	21	0	950	3670
5:00 PM	8	2	0	0	16	2	34	0	84	611	17	1	2	194	30	0	1001	3797
5:15 PM	3	1	1	0	19	1	30	0	74	649	27	1	0	186	17	0	1009	3930
5:30 PM	5	1	0	0	28	4	28	0	51	602	21	0	1	180	27	0	948	3908
5:45 PM	7	2	1	0	40	3	36	0	66	605	32	0	1	204	24	0	1021	3979

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	8	4	0	160	12	144	0	264	2420	128	0	4	816	96	0	4084
Heavy Trucks	4	0	0		0	0	0		0	24	0		0	0	0		28
Pedestrians		0				8				0				0			8
Bicycles	0	0	0		0	0	0		0	0	2		0	0	0		2
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

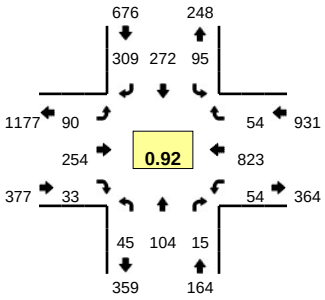
Type of peak hour being reported: Intersection Peak

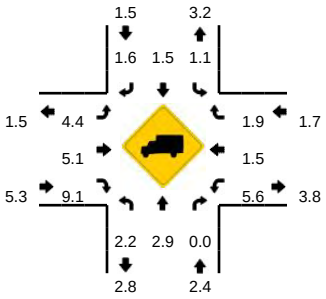
Method for determining peak hour: Total Entering Volume

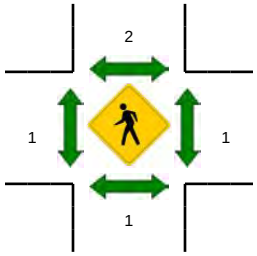
LOCATION: Bailey Rd -- Concord Blvd
CITY/STATE: Concord, CA

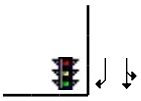
QC JOB #: 10976549
DATE: Wed, Jun 12 2013

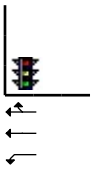
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

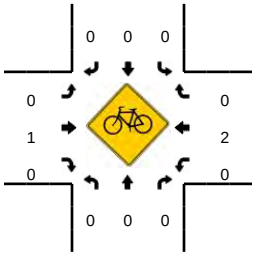


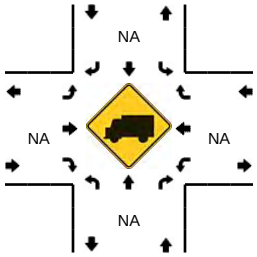


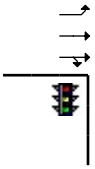


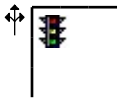


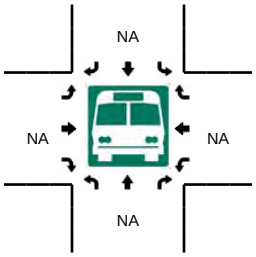












15-Min Count Period Beginning At	Bailey Rd (Northbound)				Bailey Rd (Southbound)				Concord Blvd (Eastbound)				Concord Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	16	1	0	12	45	42	0	12	40	8	0	15	170	6	0	374	
7:15 AM	8	16	4	0	21	84	73	0	19	50	5	0	6	217	13	0	516	
7:30 AM	14	32	2	0	27	64	100	0	15	60	6	0	11	239	14	0	584	
7:45 AM	12	23	6	0	25	65	92	0	22	68	10	0	20	225	13	0	581	2055
8:00 AM	11	33	3	0	22	59	44	0	34	76	12	0	17	142	14	0	467	2148
8:15 AM	10	24	2	0	24	49	45	0	26	98	17	0	9	140	13	0	457	2089
8:30 AM	9	21	5	0	18	34	22	0	11	51	10	0	10	127	4	0	322	1827
8:45 AM	10	21	6	0	18	41	18	0	16	64	6	0	7	110	7	0	324	1570

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	56	128	8	0	108	256	400	0	60	240	24	0	44	956	56	0	2336
Heavy Trucks	0	8	0		0	8	4		0	12	0		0	16	0		48
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	1	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

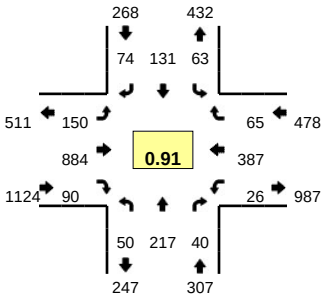
Type of peak hour being reported: Intersection Peak

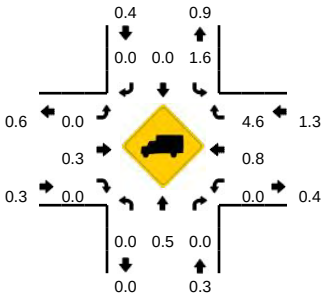
Method for determining peak hour: Total Entering Volume

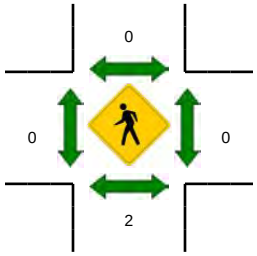
LOCATION: Bailey Rd -- Concord Blvd
CITY/STATE: Concord, CA

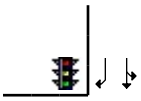
QC JOB #: 10976550
DATE: Wed, Jun 12 2013

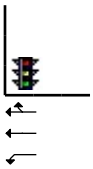
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

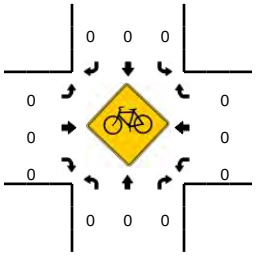


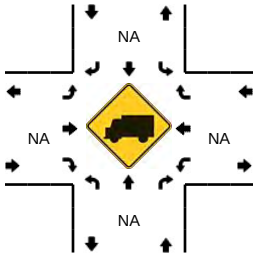


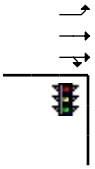


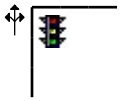


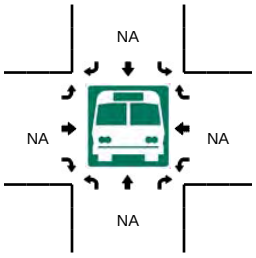












15-Min Count Period Beginning At	Bailey Rd (Northbound)				Bailey Rd (Southbound)				Concord Blvd (Eastbound)				Concord Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	10	42	18	0	8	38	15	0	26	180	22	0	5	99	19	0	482	
4:15 PM	10	42	10	0	12	27	24	0	40	199	13	0	10	108	17	0	512	
4:30 PM	6	44	12	0	13	29	27	0	40	186	24	0	7	102	20	0	510	
4:45 PM	9	42	15	0	11	34	21	0	34	214	15	0	3	105	19	0	522	2026
5:00 PM	9	39	10	0	19	35	14	0	45	201	21	0	8	80	11	0	492	2036
5:15 PM	14	67	5	0	10	31	18	0	31	218	21	0	7	104	18	0	544	2068
5:30 PM	10	67	16	0	24	33	22	0	41	220	22	0	5	116	21	0	597	2155
5:45 PM	17	44	9	0	10	32	20	0	33	245	26	0	6	87	15	0	544	2177

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	268	64	0	96	132	88	0	164	880	88	0	20	464	84	0	2388
Heavy Trucks	0	4	0		4	0	0		0	0	0		0	4	0		12
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

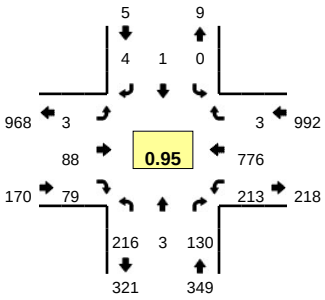
LOCATION: Bailey Rd -- Willow Pass Rd

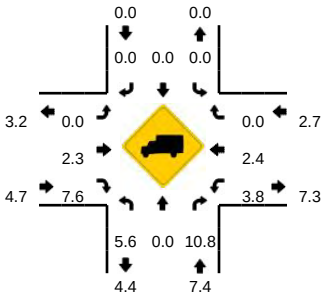
QC JOB #: 10976551

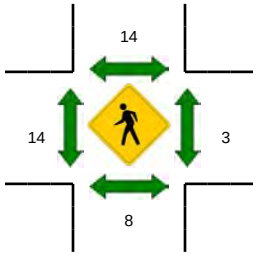
CITY/STATE: Bay Point, CA

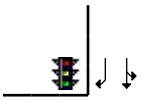
DATE: Tue, Jun 18 2013

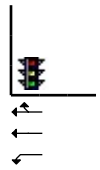
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

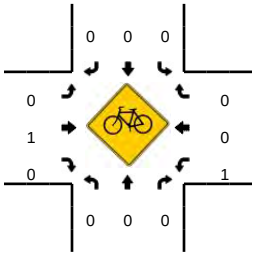


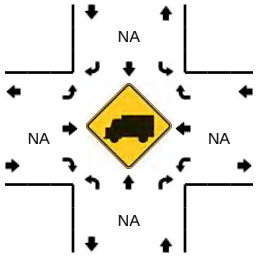


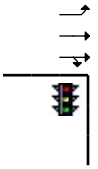


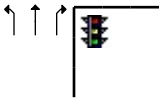


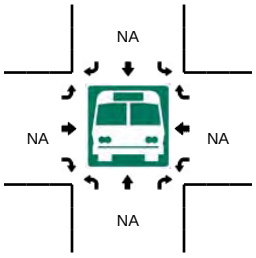












15-Min Count Period Beginning At	Bailey Rd (Northbound)				Bailey Rd (Southbound)				Willow Pass Rd (Eastbound)				Willow Pass Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	53	1	30	7	0	0	0	0	0	9	10	0	56	205	1	0	372	
7:15 AM	40	0	28	7	0	1	1	0	1	20	15	0	48	209	1	0	371	
7:30 AM	34	0	30	5	0	0	1	0	0	31	29	0	56	214	0	0	400	
7:45 AM	61	2	42	9	0	0	2	0	2	28	25	0	53	148	1	0	373	1516
8:00 AM	49	2	38	9	2	1	1	0	2	36	21	0	41	106	2	0	310	1454
8:15 AM	46	1	34	10	3	1	4	0	2	26	32	0	46	96	0	0	301	1384
8:30 AM	35	1	31	3	0	0	1	0	3	28	18	0	47	92	0	0	259	1243
8:45 AM	18	3	31	1	2	1	3	0	1	26	26	0	50	58	1	0	221	1091

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	136	0	120	20	0	0	4	0	0	124	116	0	224	856	0	0	1600
Heavy Trucks	4	0	16		0	0	0		0	0	8		12	28	0		68
Pedestrians		4				28				24				0			56
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Bailey Rd -- Willow Pass Rd

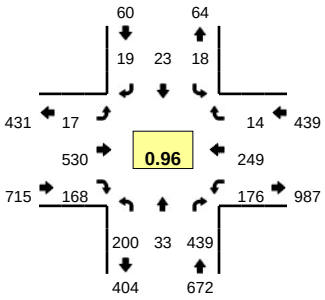
QC JOB #: 10976552

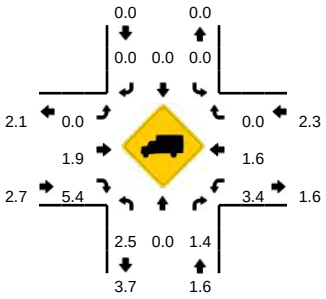
CITY/STATE: Bay Point, CA

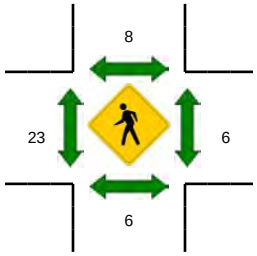
DATE: Thu, Jun 13 2013

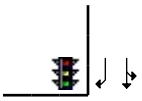
Peak-Hour: 5:00 PM -- 6:00 PM

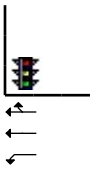
Peak 15-Min: 5:00 PM -- 5:15 PM

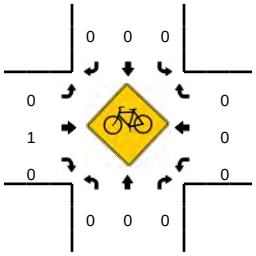


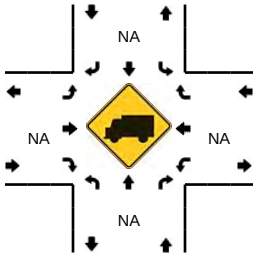


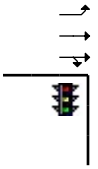


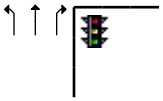


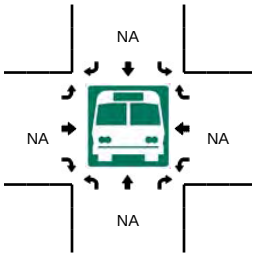












15-Min Count Period Beginning At	Bailey Rd (Northbound)				Bailey Rd (Southbound)				Willow Pass Rd (Eastbound)				Willow Pass Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	40	6	90	6	2	1	4	0	1	120	40	0	49	70	0	0	429	
4:15 PM	34	4	105	3	1	3	4	0	3	116	33	0	45	65	1	0	417	
4:30 PM	45	9	102	8	1	4	1	0	3	112	36	0	51	46	2	0	420	
4:45 PM	47	6	94	5	4	4	1	0	3	124	52	0	27	51	4	0	422	1688
5:00 PM	40	9	117	6	5	5	4	0	4	138	45	0	40	73	6	0	492	1751
5:15 PM	26	9	97	13	4	7	5	0	5	134	38	0	37	65	3	0	443	1777
5:30 PM	52	9	117	8	4	5	6	0	7	122	45	0	50	49	1	0	475	1832
5:45 PM	45	6	108	10	5	6	4	0	1	136	40	0	49	62	4	0	476	1886

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	160	36	468	24	20	20	16	0	16	552	180	0	160	292	24	0	1968
Heavy Trucks	8	0	8		0	0	0		0	0	16		4	4	0		40
Pedestrians		8				8				20				8			44
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

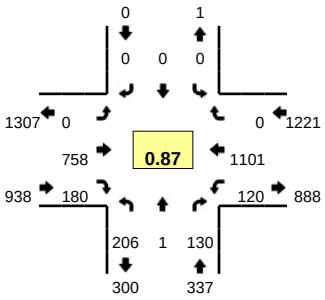
Method for determining peak hour: Total Entering Volume

LOCATION: West St -- Concord Blvd

CITY/STATE: Concord, CA

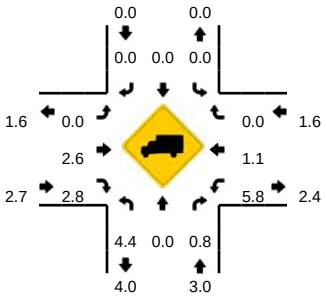
QC JOB #: 10976553

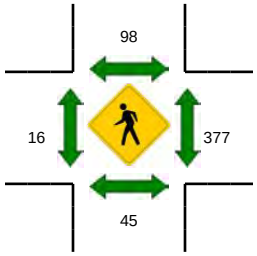
DATE: Wed, Jun 12 2013



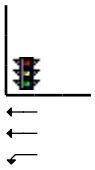
Peak-Hour: 7:30 AM -- 8:30 AM

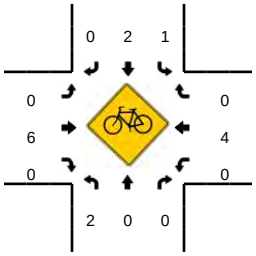
Peak 15-Min: 7:45 AM -- 8:00 AM

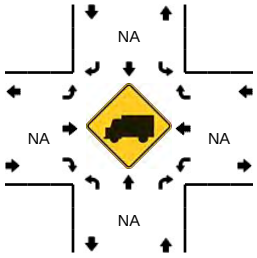


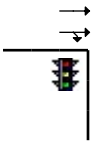




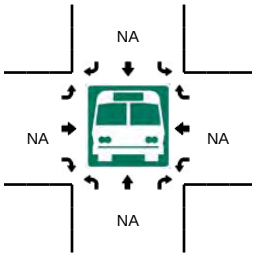












15-Min Count Period Beginning At	West St (Northbound)				West St (Southbound)				Concord Blvd (Eastbound)				Concord Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	15	0	4	0	0	0	0	0	0	106	25	0	5	202	0	0	357	
7:15 AM	18	0	4	0	0	0	0	0	0	113	41	0	9	278	0	0	463	
7:30 AM	62	0	28	0	0	0	0	0	0	131	58	0	33	258	0	0	570	
7:45 AM	55	0	32	0	0	0	0	0	0	252	44	0	22	311	0	0	716	2106
8:00 AM	47	1	36	0	0	0	0	0	0	219	30	0	37	257	0	0	627	2376
8:15 AM	42	0	34	0	0	0	0	0	0	156	48	0	28	275	0	0	583	2496
8:30 AM	15	0	1	0	0	0	0	0	0	107	17	0	6	184	0	0	330	2256
8:45 AM	20	0	4	0	0	0	0	0	0	108	17	0	7	165	0	0	321	1861

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	220	0	128	0	0	0	0	0	0	1008	176	0	88	1244	0	0	2864
Heavy Trucks	16	0	0		0	0	0		0	16	0		8	12	0		52
Pedestrians		40				120				8				408			576
Bicycles	0	0	0		1	0	0		0	3	0		0	2	0		6
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: West St -- Concord Blvd

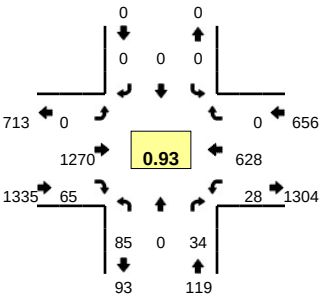
CITY/STATE: Concord, CA

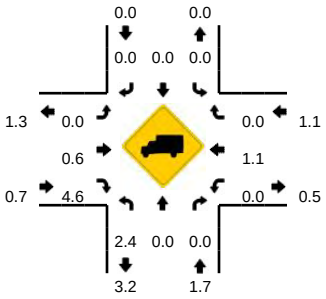
QC JOB #: 10976554

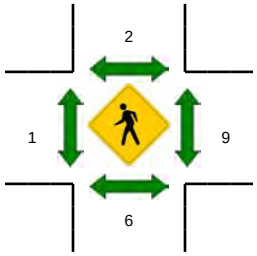
DATE: Wed, Jun 12 2013

Peak-Hour: 5:00 PM -- 6:00 PM

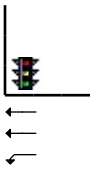
Peak 15-Min: 5:45 PM -- 6:00 PM

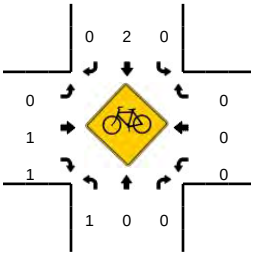


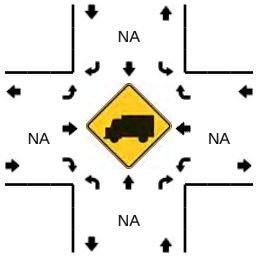


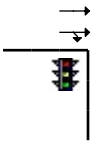




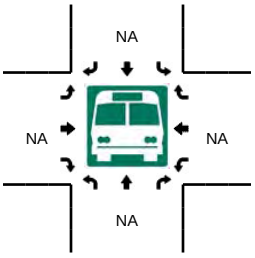












15-Min Count Period Beginning At	West St (Northbound)				West St (Southbound)				Concord Blvd (Eastbound)				Concord Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	19	0	9	0	0	0	0	0	0	302	15	0	8	155	0	0	508	
4:15 PM	21	0	4	0	0	0	0	0	0	260	9	0	7	154	0	0	455	
4:30 PM	17	0	7	0	0	0	0	0	0	283	14	0	5	168	0	0	494	
4:45 PM	24	0	9	0	0	0	0	0	0	261	21	0	2	162	0	0	479	1936
5:00 PM	18	0	8	0	0	0	0	0	0	318	8	0	5	168	0	0	525	1953
5:15 PM	13	0	11	0	0	0	0	0	0	330	18	0	7	157	0	0	536	2034
5:30 PM	21	0	5	0	0	0	0	0	0	282	17	0	6	151	0	0	482	2022
5:45 PM	33	0	10	0	0	0	0	0	0	340	22	0	10	152	0	0	567	2110

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	132	0	40	0	0	0	0	0	0	1360	88	0	40	608	0	0	2268
Heavy Trucks	0	0	0		0	0	0		0	4	4		0	8	0		16
Pedestrians		0				0				0				0			0
Bicycles	1	0	0		0	2	0		0	0	0		0	0	0		3
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Denkinger Rd -- Concord Blvd

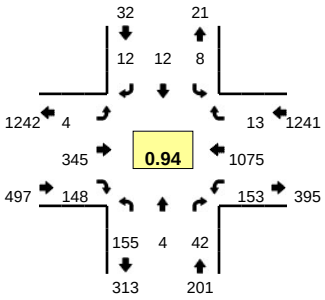
CITY/STATE: Concord, CA

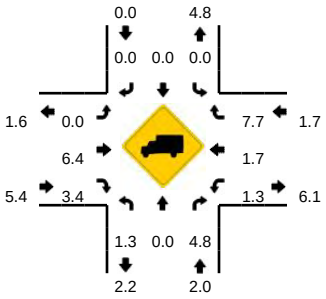
QC JOB #: 10976555

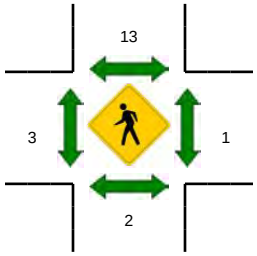
DATE: Wed, Jun 12 2013

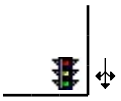
Peak-Hour: 7:15 AM -- 8:15 AM

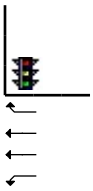
Peak 15-Min: 7:45 AM -- 8:00 AM

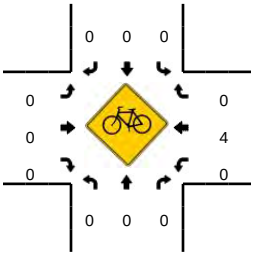


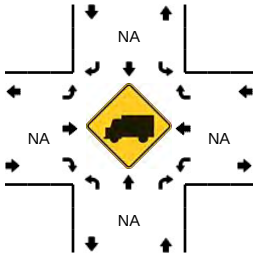


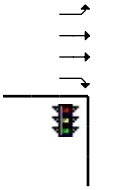




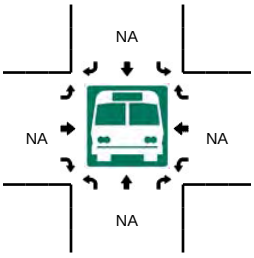












15-Min Count Period Beginning At	Denkinger Rd (Northbound)				Denkinger Rd (Southbound)				Concord Blvd (Eastbound)				Concord Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	21	1	11	0	1	0	5	0	1	55	29	0	49	183	1	0	357	
7:15 AM	31	0	9	0	0	3	2	0	1	66	31	0	37	268	1	0	449	
7:30 AM	41	1	10	0	1	1	5	0	0	78	25	0	36	307	1	0	506	
7:45 AM	52	1	10	0	2	5	2	0	3	95	41	0	44	262	6	0	523	1835
8:00 AM	31	2	13	0	5	3	3	0	0	106	51	0	36	238	5	0	493	1971
8:15 AM	27	2	11	0	3	2	3	0	3	138	39	0	21	182	0	0	431	1953
8:30 AM	34	1	11	0	2	3	2	0	1	70	16	0	16	155	0	0	311	1758
8:45 AM	26	1	10	0	1	2	1	0	1	69	17	0	24	126	3	0	281	1516

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	208	4	40	0	8	20	8	0	12	380	164	0	176	1048	24	0	2092
Heavy Trucks	0	0	8		0	0	0		0	28	4		4	4	0		48
Pedestrians		0				28				0				4			32
Bicycles	0	0	0		0	0	0		0	0	0		0	1	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Denkinger Rd -- Concord Blvd

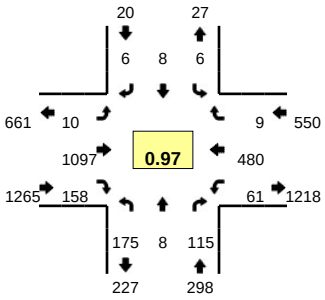
CITY/STATE: Concord, CA

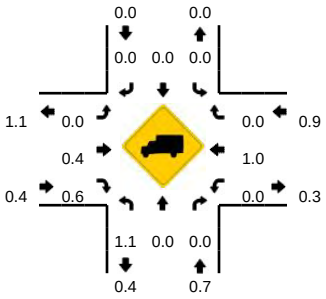
QC JOB #: 10976556

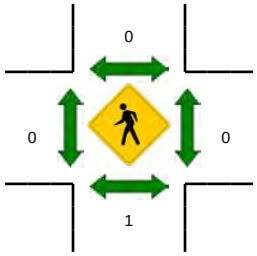
DATE: Wed, Jun 12 2013

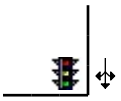
Peak-Hour: 5:00 PM -- 6:00 PM

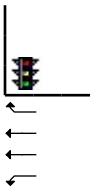
Peak 15-Min: 5:15 PM -- 5:30 PM

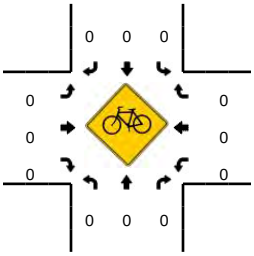


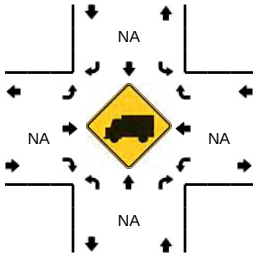


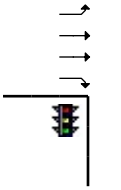




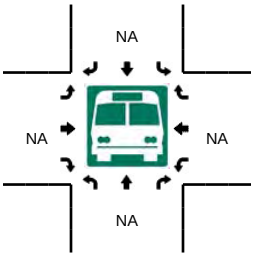












15-Min Count Period Beginning At	Denkinger Rd (Northbound)				Denkinger Rd (Southbound)				Concord Blvd (Eastbound)				Concord Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	42	3	28	0	2	2	1	0	1	235	45	0	16	107	2	0	484	
4:15 PM	45	3	35	0	3	1	4	0	2	245	39	0	18	127	2	0	524	
4:30 PM	34	4	27	0	2	1	2	0	3	230	29	0	12	136	1	0	481	
4:45 PM	45	2	37	0	2	1	1	0	0	236	41	0	14	120	1	0	500	1989
5:00 PM	58	1	21	0	3	3	3	0	2	265	42	0	21	108	2	0	529	2034
5:15 PM	38	1	30	0	1	3	1	0	1	286	47	0	16	127	1	0	552	2062
5:30 PM	47	3	34	0	2	1	1	0	2	255	34	0	12	123	1	0	515	2096
5:45 PM	32	3	30	0	0	1	1	0	5	291	35	0	12	122	5	0	537	2133

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	152	4	120	0	4	12	4	0	4	1144	188	0	64	508	4	0	2208
Heavy Trucks	4	0	0		0	0	0		0	12	0		0	8	0		24
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/30/2013 2:46 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

LOCATION: Kirker Pass Rd South of Pheasant Dr
QC JOB #: 10976537
SPECIFIC LOCATION: 0 ft from
DIRECTION: NB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				24		24			24	
12:15 AM				14		14			14	
12:30 AM				18		18			18	
12:45 AM				14		14			14	
1:00 AM				13		13			13	
1:15 AM				15		15			15	
1:30 AM				16		16			16	
1:45 AM				11		11			11	
2:00 AM				8		8			8	
2:15 AM				5		5			5	
2:30 AM				4		4			4	
2:45 AM				2		2			2	
3:00 AM				2		2			2	
3:15 AM				6		6			6	
3:30 AM				8		8			8	
3:45 AM				1		1			1	
4:00 AM				9		9			9	
4:15 AM				10		10			10	
4:30 AM				11		11			11	
4:45 AM				8		8			8	
5:00 AM				11		11			11	
5:15 AM				23		23			23	
5:30 AM				23		23			23	
5:45 AM				25		25			25	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd South of Pheasant Dr
QC JOB #: 10976537
SPECIFIC LOCATION: 0 ft from
DIRECTION: NB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				34		34			34	
6:15 AM				44		44			44	
6:30 AM				42		42			42	
6:45 AM				48		48			48	
7:00 AM				60		60			60	
7:15 AM				84		84			84	
7:30 AM				**118**		**118**			**118**	
7:45 AM				105		105			105	
8:00 AM				102		102			102	
8:15 AM				115		115			115	
8:30 AM				99		99			99	
8:45 AM				100		100			100	
9:00 AM				84		84			84	
9:15 AM				79		79			79	
9:30 AM				91		91			91	
9:45 AM				100		100			100	
10:00 AM				90		90			90	
10:15 AM				84		84			84	
10:30 AM				92		92			92	
10:45 AM				94		94			94	
11:00 AM				96		96			96	
11:15 AM				94		94			94	
11:30 AM				106		106			106	
11:45 AM				90		90			90	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd South of Pheasant Dr
QC JOB #: 10976537
SPECIFIC LOCATION: 0 ft from
DIRECTION: NB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				120		120			120	
12:15 PM				102		102			102	
12:30 PM				122		122			122	
12:45 PM				152		152			152	
1:00 PM				126		126			126	
1:15 PM				132		132			132	
1:30 PM				162		162			162	
1:45 PM				160		160			160	
2:00 PM				140		140			140	
2:15 PM				158		158			158	
2:30 PM				172		172			172	
2:45 PM				200		200			200	
3:00 PM				194		194			194	
3:15 PM				223		223			223	
3:30 PM				265		265			265	
3:45 PM				281		281			281	
4:00 PM				270		270			270	
4:15 PM				310		310			310	
4:30 PM				324		324			324	
4:45 PM				327		327			327	
5:00 PM				324		324			324	
5:15 PM				**348**		**348**			**348**	
5:30 PM				311		311			311	
5:45 PM				338		338			338	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd South of Pheasant Dr
QC JOB #: 10976537
SPECIFIC LOCATION: 0 ft from
DIRECTION: NB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				308		308			308	
6:15 PM				287		287			287	
6:30 PM				224		224			224	
6:45 PM				215		215			215	
7:00 PM				164		164			164	
7:15 PM				158		158			158	
7:30 PM				136		136			136	
7:45 PM				114		114			114	
8:00 PM				114		114			114	
8:15 PM				116		116			116	
8:30 PM				128		128			128	
8:45 PM				122		122			122	
9:00 PM				108		108			108	
9:15 PM				124		124			124	
9:30 PM				104		104			104	
9:45 PM				65		65			65	
10:00 PM				59		59			59	
10:15 PM				73		73			73	
10:30 PM				71		71			71	
10:45 PM				34		34			34	
11:00 PM				43		43			43	
11:15 PM				44		44			44	
11:30 PM				47		47			47	
11:45 PM				28		28			28	
Day Total				10479		10479			10479	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:30 AM		7:30 AM			7:30 AM	
Volume				118		118			118	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				348		348			348	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd South of Pheasant Dr
QC JOB #: 10976537
SPECIFIC LOCATION: 0 ft from
DIRECTION: SB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				10		10			10	
12:15 AM				12		12			12	
12:30 AM				4		4			4	
12:45 AM				9		9			9	
1:00 AM				8		8			8	
1:15 AM				3		3			3	
1:30 AM				5		5			5	
1:45 AM				7		7			7	
2:00 AM				1		1			1	
2:15 AM				7		7			7	
2:30 AM				3		3			3	
2:45 AM				8		8			8	
3:00 AM				9		9			9	
3:15 AM				5		5			5	
3:30 AM				9		9			9	
3:45 AM				12		12			12	
4:00 AM				10		10			10	
4:15 AM				18		18			18	
4:30 AM				25		25			25	
4:45 AM				30		30			30	
5:00 AM				39		39			39	
5:15 AM				63		63			63	
5:30 AM				131		131			131	
5:45 AM				150		150			150	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd South of Pheasant Dr
QC JOB #: 10976537
SPECIFIC LOCATION: 0 ft from
DIRECTION: SB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				250		250			250	
6:15 AM				310		310			310	
6:30 AM				346		346			346	
6:45 AM				390		390			390	
7:00 AM				**430**		**430**			**430**	
7:15 AM				428		428			428	
7:30 AM				382		382			382	
7:45 AM				322		322			322	
8:00 AM				276		276			276	
8:15 AM				290		290			290	
8:30 AM				228		228			228	
8:45 AM				194		194			194	
9:00 AM				187		187			187	
9:15 AM				180		180			180	
9:30 AM				164		164			164	
9:45 AM				158		158			158	
10:00 AM				134		134			134	
10:15 AM				142		142			142	
10:30 AM				133		133			133	
10:45 AM				101		101			101	
11:00 AM				101		101			101	
11:15 AM				112		112			112	
11:30 AM				118		118			118	
11:45 AM				94		94			94	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd South of Pheasant Dr
QC JOB #: 10976537
SPECIFIC LOCATION: 0 ft from
DIRECTION: SB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				105		105			105	
12:15 PM				96		96			96	
12:30 PM				106		106			106	
12:45 PM				101		101			101	
1:00 PM				111		111			111	
1:15 PM				82		82			82	
1:30 PM				80		80			80	
1:45 PM				104		104			104	
2:00 PM				114		114			114	
2:15 PM				111		111			111	
2:30 PM				112		112			112	
2:45 PM				97		97			97	
3:00 PM				86		86			86	
3:15 PM				98		98			98	
3:30 PM				84		84			84	
3:45 PM				111		111			111	
4:00 PM				96		96			96	
4:15 PM				102		102			102	
4:30 PM				112		112			112	
4:45 PM				**128**		**128**			**128**	
5:00 PM				102		102			102	
5:15 PM				122		122			122	
5:30 PM				124		124			124	
5:45 PM				102		102			102	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd South of Pheasant Dr
SPECIFIC LOCATION: 0 ft from
CITY/STATE: Concord, CA

QC JOB #: 10976537
DIRECTION: SB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				104		104			104	
6:15 PM				112		112			112	
6:30 PM				72		72			72	
6:45 PM				92		92			92	
7:00 PM				58		58			58	
7:15 PM				53		53			53	
7:30 PM				61		61			61	
7:45 PM				48		48			48	
8:00 PM				48		48			48	
8:15 PM				47		47			47	
8:30 PM				53		53			53	
8:45 PM				47		47			47	
9:00 PM				55		55			55	
9:15 PM				40		40			40	
9:30 PM				46		46			46	
9:45 PM				54		54			54	
10:00 PM				31		31			31	
10:15 PM				36		36			36	
10:30 PM				29		29			29	
10:45 PM				22		22			22	
11:00 PM				19		19			19	
11:15 PM				22		22			22	
11:30 PM				15		15			15	
11:45 PM				15		15			15	
Day Total				9713		9713			9713	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:00 AM		7:00 AM			7:00 AM	
Volume				430		430			430	
PM Peak				4:45 PM		4:45 PM			4:45 PM	
Volume				128		128			128	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd South of Pheasant Dr
QC JOB #: 10976537
SPECIFIC LOCATION: 0 ft from
DIRECTION: NB/SB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				34		34			34	
12:15 AM				26		26			26	
12:30 AM				22		22			22	
12:45 AM				23		23			23	
1:00 AM				21		21			21	
1:15 AM				18		18			18	
1:30 AM				21		21			21	
1:45 AM				18		18			18	
2:00 AM				9		9			9	
2:15 AM				12		12			12	
2:30 AM				7		7			7	
2:45 AM				10		10			10	
3:00 AM				11		11			11	
3:15 AM				11		11			11	
3:30 AM				17		17			17	
3:45 AM				13		13			13	
4:00 AM				19		19			19	
4:15 AM				28		28			28	
4:30 AM				36		36			36	
4:45 AM				38		38			38	
5:00 AM				50		50			50	
5:15 AM				86		86			86	
5:30 AM				154		154			154	
5:45 AM				175		175			175	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd South of Pheasant Dr
QC JOB #: 10976537
SPECIFIC LOCATION: 0 ft from
DIRECTION: NB/SB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				284		284			284	
6:15 AM				354		354			354	
6:30 AM				388		388			388	
6:45 AM				438		438			438	
7:00 AM				490		490			490	
7:15 AM				**512**		**512**			**512**	
7:30 AM				500		500			500	
7:45 AM				427		427			427	
8:00 AM				378		378			378	
8:15 AM				405		405			405	
8:30 AM				327		327			327	
8:45 AM				294		294			294	
9:00 AM				271		271			271	
9:15 AM				259		259			259	
9:30 AM				255		255			255	
9:45 AM				258		258			258	
10:00 AM				224		224			224	
10:15 AM				226		226			226	
10:30 AM				225		225			225	
10:45 AM				195		195			195	
11:00 AM				197		197			197	
11:15 AM				206		206			206	
11:30 AM				224		224			224	
11:45 AM				184		184			184	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd South of Pheasant Dr
QC JOB #: 10976537
SPECIFIC LOCATION: 0 ft from
DIRECTION: NB/SB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				225		225			225	
12:15 PM				198		198			198	
12:30 PM				228		228			228	
12:45 PM				253		253			253	
1:00 PM				237		237			237	
1:15 PM				214		214			214	
1:30 PM				242		242			242	
1:45 PM				264		264			264	
2:00 PM				254		254			254	
2:15 PM				269		269			269	
2:30 PM				284		284			284	
2:45 PM				297		297			297	
3:00 PM				280		280			280	
3:15 PM				321		321			321	
3:30 PM				349		349			349	
3:45 PM				392		392			392	
4:00 PM				366		366			366	
4:15 PM				412		412			412	
4:30 PM				436		436			436	
4:45 PM				455		455			455	
5:00 PM				426		426			426	
5:15 PM				**470**		**470**			**470**	
5:30 PM				435		435			435	
5:45 PM				440		440			440	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd South of Pheasant Dr
SPECIFIC LOCATION: 0 ft from
CITY/STATE: Concord, CA

QC JOB #: 10976537
DIRECTION: NB/SB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				412		412			412	
6:15 PM				399		399			399	
6:30 PM				296		296			296	
6:45 PM				307		307			307	
7:00 PM				222		222			222	
7:15 PM				211		211			211	
7:30 PM				197		197			197	
7:45 PM				162		162			162	
8:00 PM				162		162			162	
8:15 PM				163		163			163	
8:30 PM				181		181			181	
8:45 PM				169		169			169	
9:00 PM				163		163			163	
9:15 PM				164		164			164	
9:30 PM				150		150			150	
9:45 PM				119		119			119	
10:00 PM				90		90			90	
10:15 PM				109		109			109	
10:30 PM				100		100			100	
10:45 PM				56		56			56	
11:00 PM				62		62			62	
11:15 PM				66		66			66	
11:30 PM				62		62			62	
11:45 PM				43		43			43	
Day Total				20192		20192			20192	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:15 AM		7:15 AM			7:15 AM	
Volume				512		512			512	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				470		470			470	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: NB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				28		28			28	
12:15 AM				23		23			23	
12:30 AM				17		17			17	
12:45 AM				14		14			14	
1:00 AM				17		17			17	
1:15 AM				15		15			15	
1:30 AM				18		18			18	
1:45 AM				16		16			16	
2:00 AM				9		9			9	
2:15 AM				7		7			7	
2:30 AM				4		4			4	
2:45 AM				4		4			4	
3:00 AM				2		2			2	
3:15 AM				9		9			9	
3:30 AM				5		5			5	
3:45 AM				1		1			1	
4:00 AM				10		10			10	
4:15 AM				8		8			8	
4:30 AM				14		14			14	
4:45 AM				7		7			7	
5:00 AM				9		9			9	
5:15 AM				25		25			25	
5:30 AM				26		26			26	
5:45 AM				28		28			28	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: NB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				35		35			35	
6:15 AM				48		48			48	
6:30 AM				38		38			38	
6:45 AM				54		54			54	
7:00 AM				64		64			64	
7:15 AM				102		102			102	
7:30 AM				152		152			152	
7:45 AM				120		120			120	
8:00 AM				117		117			117	
8:15 AM				**162**		**162**			**162**	
8:30 AM				158		158			158	
8:45 AM				158		158			158	
9:00 AM				116		116			116	
9:15 AM				84		84			84	
9:30 AM				102		102			102	
9:45 AM				102		102			102	
10:00 AM				92		92			92	
10:15 AM				112		112			112	
10:30 AM				98		98			98	
10:45 AM				134		134			134	
11:00 AM				94		94			94	
11:15 AM				118		118			118	
11:30 AM				154		154			154	
11:45 AM				122		122			122	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: NB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				134		134			134	
12:15 PM				148		148			148	
12:30 PM				166		166			166	
12:45 PM				169		169			169	
1:00 PM				158		158			158	
1:15 PM				148		148			148	
1:30 PM				178		178			178	
1:45 PM				162		162			162	
2:00 PM				172		172			172	
2:15 PM				175		175			175	
2:30 PM				188		188			188	
2:45 PM				220		220			220	
3:00 PM				222		222			222	
3:15 PM				241		241			241	
3:30 PM				310		310			310	
3:45 PM				313		313			313	
4:00 PM				311		311			311	
4:15 PM				336		336			336	
4:30 PM				352		352			352	
4:45 PM				363		363			363	
5:00 PM				384		384			384	
5:15 PM				**457**		**457**			**457**	
5:30 PM				412		412			412	
5:45 PM				440		440			440	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: NB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				452		452			452	
6:15 PM				445		445			445	
6:30 PM				404		404			404	
6:45 PM				372		372			372	
7:00 PM				296		296			296	
7:15 PM				238		238			238	
7:30 PM				204		204			204	
7:45 PM				163		163			163	
8:00 PM				166		166			166	
8:15 PM				144		144			144	
8:30 PM				158		158			158	
8:45 PM				122		122			122	
9:00 PM				119		119			119	
9:15 PM				126		126			126	
9:30 PM				96		96			96	
9:45 PM				83		83			83	
10:00 PM				72		72			72	
10:15 PM				74		74			74	
10:30 PM				76		76			76	
10:45 PM				47		47			47	
11:00 PM				51		51			51	
11:15 PM				54		54			54	
11:30 PM				46		46			46	
11:45 PM				34		34			34	
Day Total				13053		13053			13053	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				8:15 AM		8:15 AM			8:15 AM	
Volume				162		162			162	
PM Peak				5:15 PM		5:15 PM			5:15 PM	
Volume				457		457			457	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: SB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				13		13			13	
12:15 AM				11		11			11	
12:30 AM				6		6			6	
12:45 AM				9		9			9	
1:00 AM				11		11			11	
1:15 AM				8		8			8	
1:30 AM				6		6			6	
1:45 AM				4		4			4	
2:00 AM				5		5			5	
2:15 AM				4		4			4	
2:30 AM				5		5			5	
2:45 AM				7		7			7	
3:00 AM				9		9			9	
3:15 AM				10		10			10	
3:30 AM				11		11			11	
3:45 AM				14		14			14	
4:00 AM				5		5			5	
4:15 AM				21		21			21	
4:30 AM				18		18			18	
4:45 AM				43		43			43	
5:00 AM				42		42			42	
5:15 AM				66		66			66	
5:30 AM				114		114			114	
5:45 AM				157		157			157	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: SB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				207		207			207	
6:15 AM				319		319			319	
6:30 AM				377		377			377	
6:45 AM				377		377			377	
7:00 AM				**450**		**450**			**450**	
7:15 AM				408		408			408	
7:30 AM				435		435			435	
7:45 AM				404		404			404	
8:00 AM				319		319			319	
8:15 AM				310		310			310	
8:30 AM				271		271			271	
8:45 AM				252		252			252	
9:00 AM				226		226			226	
9:15 AM				234		234			234	
9:30 AM				184		184			184	
9:45 AM				186		186			186	
10:00 AM				173		173			173	
10:15 AM				154		154			154	
10:30 AM				160		160			160	
10:45 AM				160		160			160	
11:00 AM				116		116			116	
11:15 AM				185		185			185	
11:30 AM				192		192			192	
11:45 AM				136		136			136	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: SB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				115		115			115	
12:15 PM				124		124			124	
12:30 PM				172		172			172	
12:45 PM				130		130			130	
1:00 PM				134		134			134	
1:15 PM				136		136			136	
1:30 PM				91		91			91	
1:45 PM				134		134			134	
2:00 PM				114		114			114	
2:15 PM				128		128			128	
2:30 PM				133		133			133	
2:45 PM				118		118			118	
3:00 PM				129		129			129	
3:15 PM				121		121			121	
3:30 PM				118		118			118	
3:45 PM				124		124			124	
4:00 PM				110		110			110	
4:15 PM				120		120			120	
4:30 PM				118		118			118	
4:45 PM				126		126			126	
5:00 PM				122		122			122	
5:15 PM				140		140			140	
5:30 PM				144		144			144	
5:45 PM				150		150			150	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: SB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				128		128			128	
6:15 PM				120		120			120	
6:30 PM				108		108			108	
6:45 PM				98		98			98	
7:00 PM				88		88			88	
7:15 PM				76		76			76	
7:30 PM				72		72			72	
7:45 PM				80		80			80	
8:00 PM				58		58			58	
8:15 PM				108		108			108	
8:30 PM				146		146			146	
8:45 PM				260		260			260	
9:00 PM				**430**		**430**			**430**	
9:15 PM				352		352			352	
9:30 PM				86		86			86	
9:45 PM				64		64			64	
10:00 PM				57		57			57	
10:15 PM				31		31			31	
10:30 PM				29		29			29	
10:45 PM				32		32			32	
11:00 PM				26		26			26	
11:15 PM				22		22			22	
11:30 PM				14		14			14	
11:45 PM				17		17			17	
Day Total				12387		12387			12387	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:00 AM		7:00 AM			7:00 AM	
Volume				450		450			450	
PM Peak				9:00 PM		9:00 PM			9:00 PM	
Volume				430		430			430	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: NB/SB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				41		41			41	
12:15 AM				34		34			34	
12:30 AM				23		23			23	
12:45 AM				23		23			23	
1:00 AM				28		28			28	
1:15 AM				23		23			23	
1:30 AM				24		24			24	
1:45 AM				20		20			20	
2:00 AM				14		14			14	
2:15 AM				11		11			11	
2:30 AM				9		9			9	
2:45 AM				11		11			11	
3:00 AM				11		11			11	
3:15 AM				19		19			19	
3:30 AM				16		16			16	
3:45 AM				15		15			15	
4:00 AM				15		15			15	
4:15 AM				29		29			29	
4:30 AM				32		32			32	
4:45 AM				50		50			50	
5:00 AM				51		51			51	
5:15 AM				91		91			91	
5:30 AM				140		140			140	
5:45 AM				185		185			185	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: NB/SB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				242		242			242	
6:15 AM				367		367			367	
6:30 AM				415		415			415	
6:45 AM				431		431			431	
7:00 AM				514		514			514	
7:15 AM				510		510			510	
7:30 AM				**587**		**587**			**587**	
7:45 AM				524		524			524	
8:00 AM				436		436			436	
8:15 AM				472		472			472	
8:30 AM				429		429			429	
8:45 AM				410		410			410	
9:00 AM				342		342			342	
9:15 AM				318		318			318	
9:30 AM				286		286			286	
9:45 AM				288		288			288	
10:00 AM				265		265			265	
10:15 AM				266		266			266	
10:30 AM				258		258			258	
10:45 AM				294		294			294	
11:00 AM				210		210			210	
11:15 AM				303		303			303	
11:30 AM				346		346			346	
11:45 AM				258		258			258	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: NB/SB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				249		249			249	
12:15 PM				272		272			272	
12:30 PM				338		338			338	
12:45 PM				299		299			299	
1:00 PM				292		292			292	
1:15 PM				284		284			284	
1:30 PM				269		269			269	
1:45 PM				296		296			296	
2:00 PM				286		286			286	
2:15 PM				303		303			303	
2:30 PM				321		321			321	
2:45 PM				338		338			338	
3:00 PM				351		351			351	
3:15 PM				362		362			362	
3:30 PM				428		428			428	
3:45 PM				437		437			437	
4:00 PM				421		421			421	
4:15 PM				456		456			456	
4:30 PM				470		470			470	
4:45 PM				489		489			489	
5:00 PM				506		506			506	
5:15 PM				**597**		**597**			**597**	
5:30 PM				556		556			556	
5:45 PM				590		590			590	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Kirker Pass Rd S of Myrtle Dr
SPECIFIC LOCATION: 0 ft from Myrtle Dr
CITY/STATE: Concord, CA

QC JOB #: 10976557
DIRECTION: NB/SB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				580		580			580	
6:15 PM				565		565			565	
6:30 PM				512		512			512	
6:45 PM				470		470			470	
7:00 PM				384		384			384	
7:15 PM				314		314			314	
7:30 PM				276		276			276	
7:45 PM				243		243			243	
8:00 PM				224		224			224	
8:15 PM				252		252			252	
8:30 PM				304		304			304	
8:45 PM				382		382			382	
9:00 PM				549		549			549	
9:15 PM				478		478			478	
9:30 PM				182		182			182	
9:45 PM				147		147			147	
10:00 PM				129		129			129	
10:15 PM				105		105			105	
10:30 PM				105		105			105	
10:45 PM				79		79			79	
11:00 PM				77		77			77	
11:15 PM				76		76			76	
11:30 PM				60		60			60	
11:45 PM				51		51			51	
Day Total				25440		25440			25440	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				7:30 AM 587		7:30 AM 587			7:30 AM 587	
PM Peak Volume				5:15 PM 597		5:15 PM 597			5:15 PM 597	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Ygnacio Valley Rd E of Cowell Rd
QC JOB #: 10976558
SPECIFIC LOCATION: 0 ft from Cowell Rd
DIRECTION: EB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				56		56			56	
12:15 AM				43		43			43	
12:30 AM				32		32			32	
12:45 AM				24		24			24	
1:00 AM				34		34			34	
1:15 AM				29		29			29	
1:30 AM				19		19			19	
1:45 AM				22		22			22	
2:00 AM				10		10			10	
2:15 AM				14		14			14	
2:30 AM				8		8			8	
2:45 AM				10		10			10	
3:00 AM				10		10			10	
3:15 AM				8		8			8	
3:30 AM				8		8			8	
3:45 AM				12		12			12	
4:00 AM				13		13			13	
4:15 AM				6		6			6	
4:30 AM				16		16			16	
4:45 AM				37		37			37	
5:00 AM				28		28			28	
5:15 AM				12		12			12	
5:30 AM				20		20			20	
5:45 AM				23		23			23	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Ygnacio Valley Rd E of Cowell Rd
QC JOB #: 10976558
SPECIFIC LOCATION: 0 ft from Cowell Rd
DIRECTION: EB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				20		20			20	
6:15 AM				58		58			58	
6:30 AM				49		49			49	
6:45 AM				68		68			68	
7:00 AM				91		91			91	
7:15 AM				126		126			126	
7:30 AM				182		182			182	
7:45 AM				**233**		**233**			**233**	
8:00 AM				198		198			198	
8:15 AM				168		168			168	
8:30 AM				163		163			163	
8:45 AM				176		176			176	
9:00 AM				132		132			132	
9:15 AM				144		144			144	
9:30 AM				178		178			178	
9:45 AM				184		184			184	
10:00 AM				184		184			184	
10:15 AM				182		182			182	
10:30 AM				188		188			188	
10:45 AM				185		185			185	
11:00 AM				193		193			193	
11:15 AM				198		198			198	
11:30 AM				230		230			230	
11:45 AM				216		216			216	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Ygnacio Valley Rd E of Cowell Rd
QC JOB #: 10976558
SPECIFIC LOCATION: 0 ft from Cowell Rd
DIRECTION: EB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				274		274			274	
12:15 PM				250		250			250	
12:30 PM				230		230			230	
12:45 PM				282		282			282	
1:00 PM				252		252			252	
1:15 PM				228		228			228	
1:30 PM				246		246			246	
1:45 PM				250		250			250	
2:00 PM				246		246			246	
2:15 PM				286		286			286	
2:30 PM				321		321			321	
2:45 PM				354		354			354	
3:00 PM				348		348			348	
3:15 PM				440		440			440	
3:30 PM				494		494			494	
3:45 PM				452		452			452	
4:00 PM				522		522			522	
4:15 PM				519		519			519	
4:30 PM				530		530			530	
4:45 PM				574		574			574	
5:00 PM				576		576			576	
5:15 PM				592		592			592	
5:30 PM				**602**		**602**			**602**	
5:45 PM				578		578			578	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Ygnacio Valley Rd E of Cowell Rd
QC JOB #: 10976558
SPECIFIC LOCATION: 0 ft from Cowell Rd
DIRECTION: EB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				540		540			540	
6:15 PM				544		544			544	
6:30 PM				494		494			494	
6:45 PM				410		410			410	
7:00 PM				420		420			420	
7:15 PM				374		374			374	
7:30 PM				346		346			346	
7:45 PM				258		258			258	
8:00 PM				226		226			226	
8:15 PM				246		246			246	
8:30 PM				210		210			210	
8:45 PM				207		207			207	
9:00 PM				206		206			206	
9:15 PM				203		203			203	
9:30 PM				192		192			192	
9:45 PM				146		146			146	
10:00 PM				118		118			118	
10:15 PM				150		150			150	
10:30 PM				104		104			104	
10:45 PM				98		98			98	
11:00 PM				92		92			92	
11:15 PM				70		70			70	
11:30 PM				86		86			86	
11:45 PM				70		70			70	
Day Total				19496		19496			19496	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:45 AM		7:45 AM			7:45 AM	
Volume				233		233			233	
PM Peak				5:30 PM		5:30 PM			5:30 PM	
Volume				602		602			602	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Ygnacio Valley Rd E of Cowell Rd
QC JOB #: 10976558
SPECIFIC LOCATION: 0 ft from Cowell Rd
DIRECTION: WB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				26		26			26	
12:15 AM				18		18			18	
12:30 AM				16		16			16	
12:45 AM				21		21			21	
1:00 AM				6		6			6	
1:15 AM				15		15			15	
1:30 AM				17		17			17	
1:45 AM				18		18			18	
2:00 AM				10		10			10	
2:15 AM				9		9			9	
2:30 AM				9		9			9	
2:45 AM				15		15			15	
3:00 AM				13		13			13	
3:15 AM				22		22			22	
3:30 AM				22		22			22	
3:45 AM				27		27			27	
4:00 AM				33		33			33	
4:15 AM				44		44			44	
4:30 AM				50		50			50	
4:45 AM				96		96			96	
5:00 AM				198		198			198	
5:15 AM				162		162			162	
5:30 AM				198		198			198	
5:45 AM				245		245			245	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Ygnacio Valley Rd E of Cowell Rd
SPECIFIC LOCATION: 0 ft from Cowell Rd
CITY/STATE: Concord, CA

QC JOB #: 10976558
DIRECTION: WB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				347		347			347	
6:15 AM				490		490			490	
6:30 AM				548		548			548	
6:45 AM				548		548			548	
7:00 AM				**608**		**608**			**608**	
7:15 AM				566		566			566	
7:30 AM				571		571			571	
7:45 AM				458		458			458	
8:00 AM				440		440			440	
8:15 AM				432		432			432	
8:30 AM				445		445			445	
8:45 AM				432		432			432	
9:00 AM				338		338			338	
9:15 AM				412		412			412	
9:30 AM				334		334			334	
9:45 AM				350		350			350	
10:00 AM				281		281			281	
10:15 AM				320		320			320	
10:30 AM				292		292			292	
10:45 AM				298		298			298	
11:00 AM				275		275			275	
11:15 AM				290		290			290	
11:30 AM				282		282			282	
11:45 AM				227		227			227	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Ygnacio Valley Rd E of Cowell Rd
QC JOB #: 10976558
SPECIFIC LOCATION: 0 ft from Cowell Rd
DIRECTION: WB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				244		244			244	
12:15 PM				280		280			280	
12:30 PM				288		288			288	
12:45 PM				293		293			293	
1:00 PM				**294**		**294**			**294**	
1:15 PM				262		262			262	
1:30 PM				244		244			244	
1:45 PM				248		248			248	
2:00 PM				228		228			228	
2:15 PM				195		195			195	
2:30 PM				203		203			203	
2:45 PM				216		216			216	
3:00 PM				220		220			220	
3:15 PM				185		185			185	
3:30 PM				198		198			198	
3:45 PM				204		204			204	
4:00 PM				221		221			221	
4:15 PM				174		174			174	
4:30 PM				224		224			224	
4:45 PM				203		203			203	
5:00 PM				220		220			220	
5:15 PM				204		204			204	
5:30 PM				251		251			251	
5:45 PM				220		220			220	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Ygnacio Valley Rd E of Cowell Rd
SPECIFIC LOCATION: 0 ft from Cowell Rd
CITY/STATE: Concord, CA

QC JOB #: 10976558
DIRECTION: WB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				172		172			172	
6:15 PM				214		214			214	
6:30 PM				182		182			182	
6:45 PM				162		162			162	
7:00 PM				152		152			152	
7:15 PM				162		162			162	
7:30 PM				153		153			153	
7:45 PM				156		156			156	
8:00 PM				124		124			124	
8:15 PM				124		124			124	
8:30 PM				148		148			148	
8:45 PM				187		187			187	
9:00 PM				266		266			266	
9:15 PM				256		256			256	
9:30 PM				141		141			141	
9:45 PM				102		102			102	
10:00 PM				86		86			86	
10:15 PM				75		75			75	
10:30 PM				68		68			68	
10:45 PM				65		65			65	
11:00 PM				44		44			44	
11:15 PM				37		37			37	
11:30 PM				37		37			37	
11:45 PM				22		22			22	
Day Total				19528		19528			19528	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:00 AM		7:00 AM			7:00 AM	
Volume				608		608			608	
PM Peak				1:00 PM		1:00 PM			1:00 PM	
Volume				294		294			294	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Ygnacio Valley Rd E of Cowell Rd
QC JOB #: 10976558
SPECIFIC LOCATION: 0 ft from Cowell Rd
DIRECTION: EB/WB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				82		82			82	
12:15 AM				61		61			61	
12:30 AM				48		48			48	
12:45 AM				45		45			45	
1:00 AM				40		40			40	
1:15 AM				44		44			44	
1:30 AM				36		36			36	
1:45 AM				40		40			40	
2:00 AM				20		20			20	
2:15 AM				23		23			23	
2:30 AM				17		17			17	
2:45 AM				25		25			25	
3:00 AM				23		23			23	
3:15 AM				30		30			30	
3:30 AM				30		30			30	
3:45 AM				39		39			39	
4:00 AM				46		46			46	
4:15 AM				50		50			50	
4:30 AM				66		66			66	
4:45 AM				133		133			133	
5:00 AM				226		226			226	
5:15 AM				174		174			174	
5:30 AM				218		218			218	
5:45 AM				268		268			268	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

Quality Counts
TRANSPORTATION DATA COLLECTION

LOCATION: Ygnacio Valley Rd E of Cowell Rd
QC JOB #: 10976558
SPECIFIC LOCATION: 0 ft from Cowell Rd
DIRECTION: EB/WB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				367		367			367	
6:15 AM				548		548			548	
6:30 AM				597		597			597	
6:45 AM				616		616			616	
7:00 AM				699		699			699	
7:15 AM				692		692			692	
7:30 AM				**753**		**753**			**753**	
7:45 AM				691		691			691	
8:00 AM				638		638			638	
8:15 AM				600		600			600	
8:30 AM				608		608			608	
8:45 AM				608		608			608	
9:00 AM				470		470			470	
9:15 AM				556		556			556	
9:30 AM				512		512			512	
9:45 AM				534		534			534	
10:00 AM				465		465			465	
10:15 AM				502		502			502	
10:30 AM				480		480			480	
10:45 AM				483		483			483	
11:00 AM				468		468			468	
11:15 AM				488		488			488	
11:30 AM				512		512			512	
11:45 AM				443		443			443	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Ygnacio Valley Rd E of Cowell Rd
QC JOB #: 10976558
SPECIFIC LOCATION: 0 ft from Cowell Rd
DIRECTION: EB/WB
CITY/STATE: Concord, CA
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				518		518			518	
12:15 PM				530		530			530	
12:30 PM				518		518			518	
12:45 PM				575		575			575	
1:00 PM				546		546			546	
1:15 PM				490		490			490	
1:30 PM				490		490			490	
1:45 PM				498		498			498	
2:00 PM				474		474			474	
2:15 PM				481		481			481	
2:30 PM				524		524			524	
2:45 PM				570		570			570	
3:00 PM				568		568			568	
3:15 PM				625		625			625	
3:30 PM				692		692			692	
3:45 PM				656		656			656	
4:00 PM				743		743			743	
4:15 PM				693		693			693	
4:30 PM				754		754			754	
4:45 PM				777		777			777	
5:00 PM				796		796			796	
5:15 PM				796		796			796	
5:30 PM				**853**		**853**			**853**	
5:45 PM				798		798			798	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

LOCATION: Ygnacio Valley Rd E of Cowell Rd
SPECIFIC LOCATION: 0 ft from Cowell Rd
CITY/STATE: Concord, CA

QC JOB #: 10976558
DIRECTION: EB/WB
DATE: Jun 13 2013 - Jun 13 2013

Start Time	Mon	Tue	Wed	Thu 13-Jun-13	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				712		712			712	
6:15 PM				758		758			758	
6:30 PM				676		676			676	
6:45 PM				572		572			572	
7:00 PM				572		572			572	
7:15 PM				536		536			536	
7:30 PM				499		499			499	
7:45 PM				414		414			414	
8:00 PM				350		350			350	
8:15 PM				370		370			370	
8:30 PM				358		358			358	
8:45 PM				394		394			394	
9:00 PM				472		472			472	
9:15 PM				459		459			459	
9:30 PM				333		333			333	
9:45 PM				248		248			248	
10:00 PM				204		204			204	
10:15 PM				225		225			225	
10:30 PM				172		172			172	
10:45 PM				163		163			163	
11:00 PM				136		136			136	
11:15 PM				107		107			107	
11:30 PM				123		123			123	
11:45 PM				92		92			92	
Day Total				39024		39024			39024	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak Volume				7:30 AM 753		7:30 AM 753			7:30 AM 753	
PM Peak Volume				5:30 PM 853		5:30 PM 853			5:30 PM 853	

Comments:

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Appendix H-2 Comparison of Level of Service (LOS) presented in the FEIS for the Disposal and Reuse of the former Naval Weapons Station Seal Beach, Detachment Concord; Concord Community Reuse Plan Final EIR (2010), and Final EIR Addendum and Initial Study of Environmental Significance for the Concord Reuse Project Area Plan (2012)

The following table was prepared in response to a public comment (Comment #24-7) on the Draft EIS requesting an explanation for the differences in the level of service (LOS) results between the Draft EIS and the City of Concord's 2010 FEIR and 2012 Area Plan EIR Addendum. The differences in the LOS results between the EIS and the Reuse Plan EIR and the Area Plan EIR Addendum are discussed in Section 4.11.1, Methodology, of the EIS. These differences in LOS results can be attributed largely to differences in the baseline conditions and the models used to forecast the traffic on area roadways and highways over the approximately 7-year period between when the analysis was completed for the Reuse Plan EIR and when the analysis was completed for the EIS. Appendix H-2 provides a detailed comparison of intersections, roadway segments, freeway segments, and roadway ramps that exceed performance thresholds under Alternative 1 with those that exceed performance thresholds under the Preferred Alternative in the City of Concord's 2010 FEIR and 2012 Area Plan EIR Addendum.

Intersection/Segment/Ramp	**Reuse Plan Final EIR (2010) – Preferred Alternative**				**Final EIR Addendum (2012) – Area Plan**				**FEIS – Alternative 1**				**Explanation for Differences between FEIR/FEIR Addendum and FEIS**
	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	
Intersections													
1. Port Chicago Hwy / Panoramic Dr	**F**	**1.04**	E	0.91	**F**	**1.08**	**F**	**1.02**	**F**	**1.02**	**F**	**1.12**	Despite the overall decrease in total intersection volumes, an increase in southbound left and westbound right movements in the p.m. hours, which are critical movements in the calculation, resulted in a higher v/c in the FEIS.
2. Port Chicago Hwy / Olivera Rd	**F**	**1.21**	**F**	**1.34**	**F**	**1.2**	**F**	**1.28**	E	0.95	D	0.85	The LOS change is due to the decrease in volumes in the FEIS.
3. Farm Bureau Rd / Willow Pass Rd	B	0.64	**F**	**1.04**	B	0.63	**F**	**1.05**	B	0.6	D	0.86	The LOS change is due to the decrease in volumes in the FEIS.
4. Commerce Av - SR242 / SB/ Concord Av	E	0.98	**F**	**1.15**					B	0.65	D	0.84	The LOS change is due to the decrease in volumes in the FEIS.
5. West St / Concord Blvd	D	0.89	B	0.66	D	0.89	B	0.65	C	0.72	B	0.64	The LOS change is due to the decrease in volumes in the FEIS.
6. Denkinger Rd / Concord Blvd	C	0.78	C	0.71	C	0.8	B	0.67	A	0.58	B	0.62	The LOS change is due to the decrease in volumes in the FEIS.
7. Bailey Rd / Concord Blvd	C	0.71	B	0.69					C	0.72	A	0.58	The LOS change is due to the decrease in volumes in the FEIS.
8. North Main St / Sunnyvale Av-SB I-680 Ramps	**F**	**1.2**	**F**	**1.12**					E	1	D	0.86	The LOS change is due to the decrease in volumes in the FEIS.
9. North Main St / Geary Rd	**F**	**1.08**	**F**	**1.2**					D	0.84	F	1.02	The LOS change is due to the decrease in volumes in the FEIS.
10. Buskirk Av-NB I-680 Off Ramp / Treat Blvd	F	1.33	**F**	**1.7**					B	0.6	B	0.68	The LOS change is due to the change in lane geometries for the eastbound approach and decreased volumes in the FEIS.
11. Oak Rd / Treat Blvd	**F**	**1.03**	**F**	**1.21**					A	0.6	D	0.8	The LOS change is due to the change in southbound and eastbound lane geometries and decreased volumes in the FEIS.
12. Bancroft Rd / Treat Blvd	E	0.95	**F**	**1.14**					D	0.85	E	0.97	The LOS change is due to the decrease in volumes in the FEIS.
13. Oak Grove Rd / Treat Blvd	**F**	**1.53**	**F**	**1.14**					E	0.97	D	0.84	The LOS change is due to the low baseline count in the FEIS.
14. NB I-680 Off Ramp / Ygnacio Valley Rd	**F**	**1.39**	**F**	**1.49**					**F**	**1**	**F**	**1**	No change in LOS. Decrease in volumes resulted in lower v/c in the FEIS.
15. Bancroft Rd / Ygnacio Valley Rd	E	0.94	D	0.84					D	0.81	D	0.82	The LOS change is due to the decrease in volumes in the FEIS.
16. Oak Grove Rd / Ygnacio Valley Rd	**F**	**1.03**	**F**	**1.31**					E	0.94	E	0.94	The LOS change is due to the decrease in volumes in the FEIS.
17. Ayers Rd / Ygnacio Valley Rd	E	0.97	C	0.72					C	0.74	A	0.59	The LOS change is due to the change in northbound lane geometries and decreased volumes in the FEIS.
18. Willow Pass Rd / Evora Rd (West)	**F**	**1.16**	**F**	**1.27**	**F**	**1.44**	**F**	**1.31**	**F**	**1.91**	**F**	**1.56**	No change in LOS. Increase in volumes resulted in higher v/c in the FEIS.
19. Willow Pass Rd / SR 4 WB ramps	**E**	**0.98**	B	0.7	**E**	**0.99**	C	0.74	**F**	**1.19**	C	0.73	The LOS change is due to an increase in volume in the FEIS.

Intersection/Segment/Ramp	Reuse Plan Final EIR (2010) – Preferred Alternative				Final EIR Addendum (2012) – Area Plan				FEIS – Alternative 1				Explanation for Differences between FEIR/FEIR Addendum and FEIS
	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	
20. Willow Pass Rd / SR 4 EB ramps	**E**	**0.96**	B	0.69	**E**	**0.98**	C	0.73	D	0.85	**E**	**0.96**	Despite the decreased total volume in p.m., an increase in the southbound lane of 405 vehicles results in the dramatic increase in v/c in p.m. in the FEIS.
21. Willow Pass Rd / Avila Rd	**F**	**1.51**	**F**	**1.49**	**F**	**1.22**	**F**	**1.42**	**F**	**1.35**	**F**	**1.26**	No change in LOS. Decrease in volumes resulted in lower v/c in the FEIS.
22. Willow Pass Rd / Evora Rd (East)-SR 4 WB Off Ramp	**F**	**1.01**	D	0.83					**F**	**1.25**	B	0.67	The LOS change in p.m. is due to the decrease in volumes in the FEIS. Increase in a.m. volumes resulted in higher v/c in the FEIS.
23. San Marco Blvd-Willow Pass Rd/SR 4 EB ramps	C	0.7	**E**	**0.99**					**F**	**1.13**	**F**	**1.61**	The LOS change is due to an increase in volumes due to specific development changes at Bay Point PDA.
24. San Marco Blvd / W. Leland Rd	**D**	**0.9**	C	0.78					**D**	**0.89**	D	0.85	In a.m., there are increases in southbound left, eastbound through, and westbound through and decrease in westbound right, but not enough to change v/c in the FEIS. In p.m., the decrease in southbound left and increases in eastbound through and westbound through (which are not as critical as left-turn movements) result in improved v/c to change LOS to D n the FEIS.
25. Bailey Rd / Willow Pass Rd	D	0.88	E	0.96					C	0.78	E	0.92	The LOS change is due to the change in lane geometries for all approaches in the FEIS.
26. Bailey Rd / SR 4 EB ramps-BART access	C	0.78	**F**	**1.87**					D	0.83	**F**	**1.86**	The LOS change is due to the slight increase in volume at the threshold between LOS C in the FEIR and D in the FEIS.
27. Railroad Av / W. Leland Rd	**E**	**0.98**	**F**	**1.31**					**D**	**0.86**	**E**	**1**	The LOS change is due to the decrease in volumes in the FEIS.
28. Kirker Pass Rd / James Donlon Blvd	E	0.99	**F**	**1.09**					**F**	**1.16**	**F**	**1**	The LOS change is due to an increase in volume in the FEIS.
Roadway Segments													
1. Ygnacio Valley Rd - East of Cowell Rd	D	0.99	F	1.08					C	0.7	C	0.63	The LOS change is due to the decrease in volumes in the FEIS.
2. Bailey Rd. - East of Concord Blvd	**F**	**1.25**	**F**	**1.28**					**E**	0.95	D	0.61	The LOS change is due to the decrease in volumes in the FEIS.
3. Concord Blvd. - West of Denkinger Rd	**F**	**1.05**	**F**	**1.02**					D	0.83	D	0.94	The LOS change is due to the decrease in volumes in the FEIS.
4. Port Chicago Hwy - North of Olivera Rd	**F**	**1.8**	**F**	**1.79**	N/A	N/A	**F**	**1.84**	**F**	**1.18**	**F**	**1.17**	No change in LOS.
5. Kirker Pass Rd. - South of Myrtle Dr	C	0.55	D	0.86	C	0.54	N/A	N/A	D	0.81	D	0.74	The LOS change is due to an increase in a.m. volumes in the FEIS. PM volumes decreased in the FEIS which resulted in a lower v/c.
Freeway Segments													
1. I-680 s/o Monument Blvd	NB: C	0.66	**NB: F**	**1.34**					NB: C	0.71	NB: D	0.79	The LOS change is due to the decrease in p.m. volumes and northbound geometric change in the FEIS.
	SB: F	**1.01**	SB: D	0.82					SB: C	0.7	SB: C	0.71	The LOS change is due to the decrease in volumes and southbound geometric change in the FEIS.

Intersection/Segment/Ramp	Reuse Plan Final EIR (2010) – Preferred Alternative				Final EIR Addendum (2012) – Area Plan				FEIS – Alternative 1				Explanation for Differences between FEIR/FEIR Addendum and FEIS
	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	
2. I-680 n/o Monument Blvd.	NB: C	0.57	**NB: F**	**1.12**					NB: C	0.65	NB: C	0.72	The LOS change is due to the decrease in p.m. volumes in the FEIS. In the a.m., the northbound volumes in the FEIS show an increase when compared to the FEIR, except for the segment north of SR 242.
	SB: F	**1.01**	SB: D	0.83					SB: D	0.76	SB: D	0.75	The LOS change is due to the decrease in a.m. volumes in the FEIS.
3. I-680 n/o SR 242	NB: E	0.91	**NB: F**	**2.07**					NB: B	0.52	NB: D	0.76	The LOS change is due to the decrease in volumes and the additional mixed-flow lane northbound in the FEIS. This decrease in northbound AM volume can be attributed to the 2007 counts used in the EIR, which shows very little difference in volumes between the segment n/o Monument (Segment B) and n/o SR 242 (Segment C), such that the northbound volumes on I-680 north of SR 242 in 2007 are higher than that used in the EIS.
	SB: F	**1.45**	**SB: F**	**1.1**					SB: C	0.61	SB: C	0.6	The LOS change is due to geometric changes and significant decrease in volumes in the FEIS.
4. I-680 n/o Willow Pass Rd	NB: B	0.45	**NB: F**	**1.04**					NB: B	0.44	NB: C	0.72	The LOS change is due to northbound geometric changes and significant decrease in p.m. volumes in the FEIS
	SB: D	0.8	SB: C	0.57					SB: C	0.67	SB: C	0.59	The LOS change is due to southbound geometric changes and decrease in volumes in the FEIS.
5. I-680 n/o Concord Ave	NB: B	0.4	**NB: F**	**1.03**					NB: B	0.5	NB: D	0.8	The LOS change is due to the decrease in p.m. volumes in the FEIS.
	SB: E	0.91	SB: C	0.66					SB: C	0.59	SB: C	0.53	The LOS change is due to the decrease in a.m. volumes in the FEIS.
6. I-680 n/o SR 4	NB: B	0.4	NB: E	0.91					NB: C	0.55	NB: C	0.69	The LOS changes are due to the volumes increasing in the a.m. and decreasing in the p.m. in the FEIS.
	SB: F	**1.08**	SB: D	0.78					SB: C	0.57	SB: C	0.58	The LOS change is due to southbound geometric changes and decrease in volumes in the FEIS.
7. SR 242 n/o I-680	NB: C	0.56	**NB: F**	**1.1**					NB: D	0.75	NB: D	0.79	The LOS changes are due to the volumes increasing in the a.m. and decreasing in the p.m. in the FEIS.
	SB: E	0.94	SB: D	0.81					SB: D	0.77	SB: C	0.63	The LOS change is due to the decrease in volumes in the FEIS.
8. SR 4 e/o SR 242	EB: C	0.58	EB: C	0.73					EB: B	0.42	EB: D	0.82	The LOS changes are due to the volumes decreasing in the a.m. and increasing in the p.m. in the FEIS.
	WB: F	**1.57**	**WB: F**	**1.22**					**WB: F**	**1.57**	WB: C	0.72	The LOS change is due to the decrease in p.m. volumes in the FEIS.
9. SR 4 e/o Port Chicago Hwy	EB: E	0.94	**EB: F**	**1.15**					EB: C	0.72	**EB: F**	**1.19**	The LOS change is due to the decrease in a.m. volumes in the FEIS.
	WB: F	**1.19**	WB: E	0.93					**WB: F**	**1.25**	WB: C	0.57	The LOS change is due to the decrease in p.m. volumes in the FEIS.

Intersection/Segment/Ramp	Reuse Plan Final EIR (2010) – Preferred Alternative				Final EIR Addendum (2012) – Area Plan				FEIS – Alternative 1				Explanation for Differences between FEIR/FEIR Addendum and FEIS
	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	
10. SR 4 e/o Willow Pass Rd	EB: D	0.86	**EB: F**	**1**					EB: C	0.67	**EB: F**	**1.26**	The LOS changes are due to eastbound geometric changes and the volumes decreasing in the a.m. and increasing in the p.m. in the FEIS.
	WB: F	**1.38**	**WB: F**	**1.06**					**WB: F**	**1.57**	WB: C	0.73	The LOS changes are due to the volumes increasing in the a.m. and decreasing in the p.m. in the FEIS.
11. SR 4 e/o San Marco Blvd	EB: C	0.64	**EB: F**	**1.09**					EB: C	0.62	**EB: F**	**1.05**	No change in LOS.
	WB: F	**1.19**	WB: E	0.93					**WB: F**	**1.36**	WB: C	0.56	The LOS change is due to the decrease in p.m. volumes in the FEIS.
12. SR 4 e/o Railroad	EB: C	0.72	EB: E	0.99					EB: C	0.68	EB: C	0.59	The LOS change is due to geometric change and the decrease in p.m. volumes in the FEIS.
	WB: F	**1.04**	WB: D	0.84					WB: B	0.47	WB: B	0.47	The LOS change is due to geometric change and the decrease in volumes in the FEIS.
Freeway Ramps													
1. I-680: Willow Pass Rd NB off-ramp	D	N/A	**F**	**1.51**	D	N/A	**F**	**1.52**	D	0.78	**E**	**0.97**	The LOS change is due to reduced volumes on mainline.
2. I-680: Concord Av WB to NB on-ramp	B	N/A	**F**	**1.02**					C	0.49	D	0.76	The LOS change is due to freeway volume changes in a.m.; ramp volume change in p.m. in the FEIS.
3. I-680: Willow Pass Rd EB to SB on-ramp	**F**	**1.16**	C	N/A					C	0.64	C	0.79	The LOS change is due to volume changes in the FEIS.
4. SR 242: Clayton Rd NB off-ramp	C	N/A	**F**	**1.07**					B	0.7	C	0.81	The LOS change is due to additional mainline capacity in the FEIS.
5. SR 242: Concord Av EB to NB on-ramp	C	N/A	**F**	**1.01**	C	N/A	**F**	**1.02**	C	0.85	C	0.71	The LOS change is due to volume changes in the FEIS.
6. SR 242: Clayton Rd SB on-ramp	**F**	**1.13**	**F**	**1.15**	**F**	**1.15**	**F**	**1.15**	D	0.85	D	0.75	The LOS change is due to volume changes in the FEIS.
7. SR 4: Port Chicago Hwy EB off-ramp	**F**	**0.96**	**F**	**1.1**	**F**	**0.96**	**F**	**1.09**	C	0.69	**F**	**1.43**	The LOS change in a.m. is due to lower volumes on freeway in the FEIS.
8. SR 4: Port Chicago Hwy EB on-ramp	D	N/A	**F**	**1.2**					C	0.67	**F**	**1.3**	The LOS change is due to additional mainline capacity in the FEIS.
9. SR 4: Willow Pass Rd EB off-ramp	E	N/A	**F**	**1.15**					D	0.79	**F**	**1.36**	The LOS change in a.m. is due to the change in volumes on freeway in the FEIS.
10.SR 4: Port Chicago Hwy WB on-ramp	**F**	**1.77**	**F**	**1.6**					D	0.87	**E**	**0.97**	The LOS change is due to additional mainline capacity in the FEIS.
11. SR 4: Port Chicago Hwy WB off-ramp	**F**	**1.1**	D	N/A					**F**	**1.62**	D	0.74	No change in LOS.
12. SR 4: Willow Pass Rd WB on-ramp	**F**	**1.28**	C	N/A					**F**	**1.88**	C	0.6	No change in LOS.

Intersection/Segment/Ramp	Reuse Plan Final EIR (2010) – Preferred Alternative				Final EIR Addendum (2012) – Area Plan				FEIS – Alternative 1				Explanation for Differences between FEIR/FEIR Addendum and FEIS
	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	
13. SR 4: Willow Pass Rd WB off-ramp	**F**	**1**	D	0.79					**F**	**1.8**	E	0.88	The LOS change is due to the different analysis assumptions for ramp type in the FEIS.
14. SR 4: San Marco Blvd EB off-ramp	C	0.55	**F**	**1.58**	C	0.61	**F**	**1.58**	C	0.85	**F**	**1.75**	No change in LOS.
15. SR 4: SB San Marco Blvd WB on-ramp	**F**	**1.22**	C	0.46					**F**	**2.11**	C	0.72	No change in LOS.
16. SR 4: NB San Marco Blvd WB on-ramp	**F**	**1.25**	B	N/A					**F**	**1.52**	C	0.68	The LOS change in p.m. is due to on-ramp volume changes in the FEIS.
17. SR 4: NB San Marco Blvd EB on-ramp	B	N/A	**F**	**1.06**	B	N/A	**F**	**1.05**	C	0.52	**F**	**1.03**	The LOS change in a.m. is due to the difference in the Highway Capacity Manuael (HCM) methodology used in the FEIS.
18. SR 4: San Marco Blvd WB off-ramp	**F**	**1.33**	D	N/A					**F**	**1.27**	C	0.44	The LOS change in p.m. is due to the decrease in ramp volumes in the FEIS.
19. SR 4: SB Bailey Rd EB off-ramp	C	N/A	**F**	**1.03**					C	0.67	**F**	**1.09**	No change in LOS.
20. SR 4: Bailey Rd WB on-ramp	**F**	**1.22**	B	N/A					**F**	**1.39**	B	0.52	No change in LOS.
21. SR 4: Railroad Ave WB on-ramp	**F**	**1.04**	B	N/A					**F**	**1.21**	C	0.57	The LOS change in p.m. is due to the change in ramp volumes in the FEIS.

Note:

Bold values represent LOS that exceed performance standards.

Green highlighted cells represent LOS that exceed performance standards but the v/c is the same as or lower than under the No Action Alternative.

Yellow highlighted cells represent LOS that exceed performance standards and the v/c is higher than under the No Action Alternative.

Key:

EB = eastbound

e/o = east of

NB = northbound

n/o = north of

SB = southbound

s/o = south of

WB = west bound

w/o = west of

LOS = level of service

N/A = not available

VC = volume-to-capacity ratio

PDA = Priority Development Area

SR = State Route

Appendix I Biological Opinion

This page intentionally left blank.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2013-F-0514

MAY 30 2017

Rick M. Bottoms, Ph.D.
Chief, Regulatory Division
Attn: Greg Brown
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

Alan K. Lee
Base Closure Manager
Department of the Navy
Base Realignment Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

Subject: Formal Consultation on the Proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station, Contra Costa County, California

Dear Dr. Bottoms and Mr. Lee:

This letter is in response to the U.S. Army Corps of Engineers (Corps) June 12, 2013, and the Department of the Navy's (Navy) October 2, 2013, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed transfer and redevelopment of the former Concord Naval Weapons Station (CNWS) (proposed project) located in the City of Concord, Contra Costa County, California. The Corps' letter was received by this field office on June 14, 2013, and the Navy's letter was received on October 18, 2013. At issue are effects to the federally threatened Central California Distinct Population Segment (DPS) of the California tiger salamander (*Ambystoma californiense*) (Central California tiger salamander), threatened California red-legged frog (*Rana draytonii*), endangered San Joaquin kit fox (*Vulpes macrotis mutica*), threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*), and threatened vernal pool fairy shrimp (*Branchinecta lynchi*). The Service has designated critical habitat for Central California tiger salamander, California red-legged frog, Alameda whipsnake, and vernal pool fairy shrimp but no critical habitat lies within the action area, so none will be affected. The Service recommends that the Navy and the Corps encourage the City and East Bay Regional Park District to contact the Service's Migratory Bird Division in the Pacific Southwest Regional Office to assess the need for an eagle take permit and to ensure the proposed project's effects on eagles are consistent with Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal actions on which we are consulting are (1) the Navy's proposed transfer of surplus federal property located within the Inland Area of the CNWS through the federal Base Realignment and Closure (BRAC) process to the City of Concord (City), to the East Bay Regional Park District (EBPRD) through the Department of the Interior, and to the Contra Costa County Sheriff's Department and the Contra Costa County Fire Protection District for subsequent redevelopment in accordance with the Concord Reuse Project Area Plan (Area Plan); and (2) the issuance of a Department of the Army 404 Permit by the Corps to the City for the fill of waters of the U.S. during development-related and conservation-related activities by the City of Concord pursuant to the Area Plan.

Pursuant to 50 CFR 402.12(j), you submitted a biological assessment for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may effect, and is likely to adversely affect Central California tiger salamander, California red-legged frog, and Alameda whipsnake. In subsequent communications between the Navy, the Corps, and the Service, it was determined that the proposed project may effect and is not likely to adversely affect San Joaquin kit fox and vernal pool fairy shrimp.

In considering your request, we based our evaluation on the following: (1) information provided in the Corps June 12, 2013, and the Navy's October 2, 2013, letters; (2) the *Biological Assessment for the Concord Reuse Project- Area Plan, Concord, California* (BA), dated May 10, 2013; (3) site visits in May 2010, November 2014, and September 2015; (4) information provided in data responses to the Service's requests for information (see consultation history below); (5) data from Central California tiger salamander trapping and other surveys conducted by the Navy in support of previous remediation work in the Reuse Area; and (6) other information available to the Service.

The Service concurs with the determination that the proposed project may affect, but is not likely to adversely affect the San Joaquin kit fox. This determination is based on the following: (1) the Reuse Area is located at the northernmost edge of the northern portion San Joaquin kit fox range and no San Joaquin kit fox have been documented northwest of Kirker Pass Road which lies south of the Reuse Area; 2) San Joaquin kit fox were not detected during spotlight surveys conducted in the Reuse Area in 1998 and 1999; (3) no San Joaquin kit fox were detected at scent stations or during spotlight surveys conducted in the Reuse Area in 1982; and (4) San Joaquin kit fox have not been documented along the northernmost edge of their range since 1995.

The Service concurs with the determination that the proposed project may affect, but is not likely to adversely affect vernal pool fairy shrimp. This determination is based on the following: (1) the results of dry season sampling within the Reuse Area conducted from 2003 to 2005 which did not detect vernal pool fairy shrimp; (2) the results of protocol-level dry-season and wet-season surveys conducted in 2007 and 2008 within the Reuse Area that also did not detect any vernal pool fairy shrimp; (3) no documented occurrences of vernal pool fairy shrimp occur within 5 miles of the Reuse Area; and (4) the ephemeral pools and ditches within the Reuse Area that provide potential habitat for vernal pool fairy shrimp are located primarily in disturbed portions of the Reuse Area and are unlikely to support vernal pool fairy shrimp based on their quality and hydrology.

The remainder of this document provides our biological opinion on the effects of the proposed project on Central California tiger salamander, California red-legged frog, and Alameda whipsnake.

Consultation History

May 19, 2010:	The Service attended a "kick-off meeting" and site visit hosted by the City to present the proposed project to the resource agencies.
June, 23, 2010:	The Service met with the City to discuss Section 7 and/or Section 10 permitting avenues for the proposed project.
January 13, 2011:	The Service attended a meeting with the City, the Corps, the California Department of Fish and Wildlife (CDFW), and others to discuss coordination of the Corps' NEPA analysis, the Navy Environmental Impact Statement, and the Section 7 consultation.
June 14, 2013:	The Service received the Corps' June 12, 2013, letter requesting initiation of formal consultation on the re-development of the CNWS.
June 23, 2013:	The Service received a letter from the Navy requesting a meeting to discuss Section 7 compliance for the transfer of the CNWS.
July 16, 2013:	The Service met with the Navy to discuss a joint Section 7 consultation with the Navy and the Corps that would address both the transfer and the subsequent reuse of the CNWS.
September 10, 2013:	The Service met with the City, Navy, and Corps. It was determined that the Corps and Navy would participate in a joint formal consultation.
October 18, 2013:	The Service received a letter from the Navy requesting formal consultation and requesting a joint consultation with the Corps.
January 22, 2014:	The Service met with the City and CDFW to discuss coordination of state and federal permitting.
June 16, 2014:	The Service met with the City and Corps to discuss the proposed project including mitigation and mitigation funding structure, City responsibilities in regard to a biological opinion, and anticipated transfer schedule.
October 1, 2014:	The Service met with the Corps and the City to discuss the Service's review of the Biological Assessment for the proposed project.
November 13, 2014:	The Service attended a site visit with the City, East Bay Regional Park District (EBRPD), and CDFW.
December 18, 2014:	The Service sent a letter to the Navy and the Corps requesting additional information needed to initiate consultation.
March 20, 2015:	The Service received a response to the request for additional information from the Navy.

March 30, 2015:	The Service received a letter from the Corps responding to the request for additional information and requesting that the Corps be included in all meetings and correspondence related to the section 7 consultation for the proposed project.
May 27-28, 2015:	The Service met with the Navy, Corps, City, and EBRPD to discuss data needs. The Service provided a follow-up email summarizing information needed to initiate formal consultation.
June - August, 2015:	The Service received letters, memos, and emails from the Navy, City and EBPRD providing data responses with additional information and participated in calls to discuss information provided.
July 2015 to November 2016:	The Service, Navy, Corps, City and EBRPD participated in monthly meetings/calls to develop a final project description.
August 5, 2015:	The Service met with the City and CDFW to update CDFW on the status of the Section 7 consultation.
September 28, 2015:	The Service attended a site visit with the Corps, Navy, City, and EBRPD.
October 24, 2015:	Per the Service's request, the Service received a draft project description that compiled and incorporated the additional information provided by all parties during previous data responses.
December 4, 2015:	The Service sent a letter to the Corps and Navy providing comments on the draft project description received October 24, 2015.
December 11, 2015:	The Service sent a letter to the Navy and the Corps responding to a request, made by the Navy during the December 10, 2015 monthly call, for clarification of the status of formal consultation and an anticipated timeline for completion of a Biological Opinion.
March 10, 2016:	The Service received a revised draft project description.
April 28, 2016:	The Service provided comments on the revised draft project description.
May 2016 to March 2017:	The Service, Navy, Corps, City, and EBRPD exchanged various emails and participated in calls and meetings to develop a final project description for the biological opinion.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed federal actions are the Navy's transfer of the Inland Area of the CNWS and the Corps' issuance of an individual permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) (404 permit). The Navy's transfer of the Inland Area and the Corps' 404 permit will facilitate the implementation of the Area Plan, which will include urban development and use (housing,

commercial, parks and recreation, roadways/transportation, and other urban infrastructure), creek restoration, habitat conservation, a Contra Costa County first responder training/command center, and the EBRPD's development of the Concord Hills Regional Park. The regional park will include passive recreation as well as long-term management and maintenance of conservation values within the park. The Corps' 404 permit will authorize the fill of jurisdictional wetlands and other waters of the U.S. during development-related and conservation-related activities by the City of Concord pursuant to the Area Plan.

Project Area and Location

The CNWS is located within the City of Concord on Suisun Bay, approximately 35 miles east-northeast of San Francisco in northern Contra Costa County, California. The facility is composed of a Tidal Area in the northwest and an Inland Area in the southeast. The Area Plan (and the City's 2030 General Plan) covers the Inland Area and two immediately adjacent areas, the City-owned portion of Diablo Creek Golf Course and the North Concord/Martinez Bay Area Rapid Transit (BART) station, in addition to public rights-of-way and easements along roads in and around these areas (hereafter referred to as the Reuse Area or CNWS Reuse Area; see Figure 1). The CNWS Reuse Area is bound on the north by the Los Medanos Hills, on the south by developed areas of the City of Concord, on the east by rangelands and residential development in the City of Pittsburg, and on the west by Port Chicago Highway.

The CNWS Reuse Area encompasses approximately 5,074 acres. It includes the approximately 4,972-acre portion of the Inland Area of the CNWS the Navy will convey from federal ownership, the 24-acre North Concord/Martinez BART station property, the 68-acre City-owned portion of the Diablo Creek Golf Course, and approximately 10 acres of public rights-of-way that the Navy does not own but where the City will make road improvements to facilitate access to the CNWS Reuse Area (Figure 1). The general locations of plant communities in the Reuse Area are shown in Figure 2 and the acreages of each are listed in Table 1.

Table 1. Approximate Acreages of Plant Communities in the Reuse Area

Plant Communities	Area (acres)
California Annual Grassland	4,048.3
Coyote Brush Scrub/Coastal Sage Scrub	4.8
Developed*	529.4
Golf Course/Recreation**	153.2
Oak Woodland/Savannah	107.7
Orchards and Plantations	155.8
Riparian Woodland	35.7
Seasonal and Perennial Wetlands/Aquatic Habitats	-----
Freshwater Marsh	5.8
Seasonal Wetlands	17.9
Creeks, Drainages, Canals, and Ponds	15.4
Total	**5,074.0**

* Includes buildings, roads, parking areas, railroad tracks, and bunkers
** Includes artificial golf course ponds

Project Background

In 2005, the Inland Area of the CNWS was approved for closure by the U.S. Department of Defense (DOD) through the federal Base Realignment and Closure (BRAC) process. Through this

federal process, the City was designated the BRAC Local Reuse Authority (LRA) (71 Fed. Reg. 6274). The Navy has declared approximately 5,028 acres of property at the former CNWS to be surplus to the needs of the federal government in accordance with Public Law 101-510, the Defense Base Closure and Realignment Act of 1990, as amended in 2005. Although the Navy initially declared 5,028 acres surplus, it has been determined that the actual surplus area is approximately 4,972 acres. In 2006, the City began to consider the ultimate re-uses of the Inland Area of the former CNWS. Following an extensive public process and incorporation of input from public health and resource agencies, the City Council, acting as the LRA, adopted a Reuse Plan in 2010, which was the first step in defining the community's vision for reuse of the site. In January 2012, the City adopted the Area Plan as part of Concord's 2030 General Plan, which sets forth the vision, policies, and standards for transformation of the Inland Area of the CNWS and immediately contiguous areas as envisioned by the Reuse Plan. Complete neighborhoods, extensive additions to protected open space in the region, creek restoration, new job centers, and a full spectrum of community facilities will be built on the site.

The Area Plan describes City (or City-authorized) development that will take place on land transferred to the City. In addition, in accordance with the Area Plan, the EBRPD will own and manage approximately 2,516 acres of the Reuse Area that will be transferred to the EBRPD. The EBRPD and the City will conserve this land (as described in more detail in the "Conservation Measures" section below) to partially offset the impacts of development by, or authorized by, the City. The approximately 2,516 acres will also serve as the Concord Hills Regional Park and provide open space and passive recreational uses.

The Area Plan also includes policies intended to permanently improve and protect the ecological values of the "Mt. Diablo Creek Riparian Corridor" shown on Figure 1. The City will own the Mt. Diablo Creek Riparian Corridor and will restore it to improve the creek's ecological and flood control values consistent with the Area Plan policies.

The City and EBRPD will take subsequent planning actions to effectuate the Area Plan. The primary future planning actions include the EBRPD's adoption of a regional park land use plan (Concord Hills Regional Park Land Use Plan) and the City's adoption and approval of specific plans and development applications. The Concord Hills Regional Park Land Use Plan is the EBRPD's planning document that will facilitate development of plans for park facilities, communicate park plans to the public, and allow for public comment. Development of the Land Use Plan is considered a public review process and a final Land Use Plan will be adopted by the EBRPD Board of Directors.

The implementation of the Area Plan also will require a 404 permit from the Corps because there are jurisdictional features present in widely dispersed locations throughout the CNWS Reuse Area. Under the Area Plan, the fill of jurisdictional features will occur in connection with the placement of fill, construction of crossings, drainage alterations, other construction activities, and habitat enhancements, thus necessitating a 404 permit from the Corps. To facilitate implementation of the Area Plan, the City applied to the Corps for a single individual permit that authorizes fill throughout the CNWS Reuse Area in connection with both development and conservation actions.

Project Components

The components of the proposed action are summarized below and then described in more detail in the following sections:

1. Navy transfer of approximately 4,972 acres of surplus property at the former CNWS (see Figure 1 for conveyance areas described below):

    a. Economic Development Conveyance (EDC) of an approximately 2,380-acre portion of the Inland Area of the former CNWS (EDC Area) to the City (see Table 2 for schedule).

    b. Public Benefit Conveyance (PBC) of an approximately 2,516-acre portion of the Inland Area of the former CNWS to the EBRPD (EBRPD PBC Area) through the Department of Interior (DOI)-National Park Service (NPS) (see Table 3 for schedule). For this PBC, the Navy plans to assign property to the DOI-NPS, which would then transfer property by deed(s) to the EBRPD.

    c. Public Benefit Conveyance of an approximately 76-acre portion of the Inland Area of the former CNWS to the Contra Costa County Sheriff's Department and the Contra Costa County Fire Protection District (County PBC) (see Table 3 for schedule). The Department of Justice has already approved the County PBC request and the Navy plans to issue the deed(s) to Contra Costa County.

2. Corps issuance of a 404 permit authorizing the fill of jurisdictional waters in connection with development and conservation actions.

3. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remediation on portions of the approximately 531-acre Installation Restoration (IR) Site 22, located within the EDC, which will subsequently be subject to implementation of the Area Plan as part of the City and City-authorized or approved development. The CERCLA response action for this site may be closely coordinated or integrated with the City or City-authorized development activities.

4. Implementation of the Concord Reuse Project Area Plan

    a. City and City-authorized or approved development and conservation activities and uses within the Reuse Area, including:

        i. New development and land uses by the City or others through City-issued approvals on the approximately 2,458-acre City Property shown on Figure 1 (includes the 2,380-acre EDC Area, 68-acre City-owned portion of the golf course, and 10 acres where road improvements related to the Area Plan will be performed within or contiguous to the EDC Area).
        ii. Riparian, wetland, and aquatic habitat enhancement, creation, restoration, and long-term management associated with the Mt. Diablo Creek Riparian Corridor (see Figure 1) and mitigation wetlands (see Figure 3) within the EDC Area.[1]

[1] The City will restore the Mt. Diablo Creek Riparian Corridor (Figure 1) in accordance with the Area Plan policies discussed above. The City also will preserve, enhance, and/or restore wetlands within the EDC Area (Figure 3) in accordance with Area Plan policies intended to protect existing wetland features. These activities also will likely be included in the 404 permit and permits issued by the Regional Water Quality Control Board and California Department of Fish and Wildlife.

iii. Provision of greenways, parks, and conservation open space, including implementation of enhancement and restoration on the EBRPD PBC Area summarized below.

b. EBRPD reuse, development, and operation of Concord Hills Regional Park including recreational and educational facilities and long-term management activities within the EBRPD PBC Area, including:

i. Reuse of some existing roads, rail lines, buildings, and other facilities for recreational and educational purposes and development and operation of new recreational and educational facilities.
ii. Long-term maintenance and management of the EBRPD PBC Area for passive recreation use consistent with conservation of biological resources.
iii. Restoration of some existing facilities, infrastructure, and other developed sites (e.g., roads, rail lines, and other infrastructure) and long-term maintenance and management of those areas for species habitat purposes.

c. Construction and operation of a 76-acre Contra Costa County Sheriff/Fire training and command center on the County PBC.

d. BART redevelopment of its currently developed 24-acre parcel.

Navy Transfer of the Former Concord Naval Weapons Station

The Navy's proposed federal action is the transfer of approximately 4,972 acres of the Inland Area of the former NWS Concord for reuse in a manner consistent with the Area Plan. The Navy's federal action will be implemented by three distinct property conveyances: (1) Navy conveyance of approximately 2,380 acres of property to the City for the purpose of economic development (EDC); (2) Navy assignment of approximately 2,516 acres of the property to the DOI-NPS, followed by a Public Benefit Conveyance of this land from DOI to the EBRPD (EBRPD PBC); and (3) Navy conveyance of 76 acres of surplus property to the Contra Costa County Sheriff's Department and the Contra Costa County Fire Protection District (County PBC) (Figure 1). The Navy's transfer of surplus property will occur in phases between approximately 2018 and 2026 as property becomes environmentally suitable for transfer.

The Navy expects to begin conveying land to the City and to assign the initial EBRPD PBC parcel to the DOI in 2018, and the City may begin developing the EDC Phase 1 in 2018. The DOI-NPS will convey the EBRPD PBC Area to the EBRPD in 2018 and the Navy will convey the County PBC in or about 2018. The remaining parcels within the EDC are anticipated to be conveyed by 2026. The timing of conveyances will depend on when CERCLA response actions (described below) are completed and whether the Navy and City agree to one or more early parcel transfers. See Tables 2 and 3 for the estimated schedule of conveyances and Figure 4 for locations.

Prior to deed transfer or assignment, the Navy may also enter into one or more Leases in Furtherance of Conveyance (LIFOCs), leases, licenses, or other appropriate real estate agreements with the City, EBRPD, or Contra Costa County, that allow those agencies to use the Navy's property for actions including, but not limited to, pre-engineering activities (described below), events, tours, and interim property management. Any real estate agreement issued by the Navy will conform to the conservation measures within this Biological Opinion and will require the property user to comply with this Biological Opinion.

Table 2. Preliminary* Proposed Transfer Phasing and Projected Transfer Dates for Economic Development Conveyance Parcels[2]

Parcel Name** (Figure 4)	Approximate Acreage	Year of Conveyance	Recipient	Mechanism
EDC Initial Transfer Parcel	1,233	2018	City of Concord	EDC: Navy issues Quitclaim Deed (QCD)
Portion of IR-22A (Group 2)	47	2018	City of Concord	EDC / QCD
Former Inland Burn Area	60	2019	City of Concord	EDC / QCD
Site 24A	12	2020	City of Concord	EDC / QCD
Runway Area	252	2021	City of Concord	EDC / QCD
Site 22**	744	2022	City of Concord	EDC / QCD
IR Site 29	27	2024	City of Concord	EDC / QCD
Guam Way	5	2026	City of Concord	EDC / QCD
Total	**2,380**		**City of Concord**	**EDC/QCD**

* Acreages and boundaries will not be final until EDC legal descriptions and associated documentation are complete.
** Many transfer parcels are named for the CERCLA sites they contain; however, parcels typically include a buffer around the CERCLA site boundaries and therefore transfer parcels are typically larger than the actual CERCLA sites for which they are named. For example, the parcel named Site 22 is 744 acres, but IR Site 22 is only 531 acres in size.

[2] The property transfer acreages and schedules described in Table 2 are estimates, based on when property likely will be suitable for transfer to the City with a quitclaim deed. Property transfers may occur sooner than this schedule through one or more early transfer actions. An early transfer may entail transfer in fee to the City followed by environmental clean-up if the Navy finds the property is suitable for an early transfer. One or more LIFOCs, leases, licenses, or other real estate agreements between the Navy and City may allow the City to use the Navy's property prior to conveying the fee interest to the City.

Table 3. Preliminary* Proposed Transfer Phasing and Projected Transfer Dates for Public Benefit Conveyance Parcels[3]

Parcel Name (Figure 4)	Approximate Acreage	Year of Conveyance	Recipient	Mechanism	Within EBRPD PBC Area
EBRPD PBC Area (Initial Transfer Parcel)	2,315	2018	EBRPD	PBC: Navy Assignment Letter to DOI-NPS / DOI-NPS issues QCD	Yes
Rocket Practice Area	51	2018	EBRPD	PBC / DOI issues QCD	Yes
Portion of IR-22A (Group 2)	76	2018	EBRPD	PBC / DOI issues QCD	Yes
County PBC Transfer	76	2018	Contra Costa County Sheriff's	PBC: Navy issues	No
IA-100 (PBC)	9	2019	EBRPD	PBC / DOI issues QCD	Yes
IA-100 West	15	2019	EBRPD	PBC / DOI issues QCD	Yes
Bermed Area/UXO 12	22	2020	EBRPD	PBC / DOI issues QCD	Yes
Eagles Nest/ UXO 10	6	2021	EBRPD	PBC / DOI issues QCD	Yes
Building 81/Site 42	22	2024	EBRPD	PBC / DOI issues QCD	Yes
Total	2,592				

* Acreages and boundaries will not be final until PBC legal descriptions and associated documentation are complete.
** Many transfer parcels are named for the CERCLA sites they contain; however, parcels typically include a buffer around the CERCLA site boundaries and therefore transfer parcels are typically larger than the actual CERCLA sites for which they are named.

Navy CERCLA actions

The Navy has been implementing and will continue to implement a hazardous materials investigation and remediation program in the Reuse Area. Potential effects on federally listed species that may result from the Navy's hazardous materials investigation and remediation activities in the CNWS Reuse Area were addressed by a previous Biological Opinion (Biological Opinion for the Environmental Investigations on the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, Contra Costa County, California; Service #81420-2011-F-0313) that was issued

[3] The property transfer acreages and schedules described in Table 3 are estimates, based on when property likely will be suitable for assignment to EBRPD and the County. One or more LIFOCs, leases, licenses, or other real estate agreements between the Navy and EBRPD or Navy and County that allows for property use prior to assignment may also occur.

to the Navy on August 31, 2012, and amended on June 23, 2013. The Navy will continue to coordinate the planning and implementation of its hazardous materials investigation and remediation program with the Service and if necessary will request an amendment to Biological Opinion #81420-2011-F-0313 to address additional CERCLA projects which may include additional ground disturbing work within the EDC Area (but not within the EBRPD PBC Area except for within parcels identified as "EBRPD-PBC Parcels for Later Transfer" in Figure 4). However, IR Site 22 (shown on Figure 4) CERCLA program activities are included in the Proposed Action addressed in this Biological Opinion because IR Site 22 CERCLA program activities may be closely coordinated, or integrated, with implementation of the Concord Reuse Project Area Plan and City or City-authorized development within the Reuse Area. Coordinating development related activities, such as grading IR Site 22 or demolition of bunkers with the remediation would reduce overall site disturbance and avoid a duplication of effort.

The Navy will prepare a CERCLA Amended Feasibility Study, and remediation alternatives to determine how to address arsenic in the soil at IR Site 22. Alternatives may include the following:

1. Land Use Controls (LUCs). Legal and administrative mechanisms to restrict site access to authorized personnel, limit exposure of users of the property to hazardous substances, and protect and maintain the integrity of the remedial action.

2. Excavation and on-site containment. Involves the excavation of contaminated surface soil and consolidation into an on-site engineered containment cell or corrective action management unit (CAMU). The CAMU may include a geosynthetic liner and a compacted soil cover. Hauling of the soil from various areas within IR Site 22 to the CAMU would be required with staging of soil piles for the construction of the CAMU. The CAMU would be located within the EDC Area and could potentially be located as indicated on Figure 4. A CAMU would require LUCs and long-term maintenance to maintain its effectiveness.

3. Excavation and disposal at an off-station treatment/disposal facility. Involves the excavation of contaminated surface soil and disposal at an off-site permitted disposal facility. Off-site disposal would require haul routes from IR Site 22 to the exit of the base. No LUCs would be required after this action is completed.

4. Excavation and selective capping. In conjunction with development, this would involve selective excavation of soil in areas proposed for residential reuse that will not contain buildings, parking lots, roads, or other means of beneficial capping, and consolidation of excavated soil within areas proposed for residential reuse that will contain buildings, parking lots, roads, or other means of beneficial capping.

U.S. Army Corps of Engineers Section 404 Permit Issuance

Pursuant to Section 404 of the Clean Water Act, the Corps is expected to issue a permit for the fill of jurisdictional wetlands and other waters of the U.S. during development-related and conservation-related activities pursuant to the Area Plan. These activities will fill approximately 6.93 acres of wetlands and other waters distributed throughout the Reuse Area. Impacts to jurisdictional wetlands and other waters will occur primarily during construction of the infrastructure within the EDC Area necessary to implement the Area Plan and during creek restoration activities within the Mt. Diablo Creek Riparian Corridor, but impacts will also include fill for conservation activities such as new pond creation and enhancement of existing ponds within the EBRPD PBC Area. The City submitted a Section 404 permit application to the Corps on November 16, 2012 for implementation

of the Area Plan and provided supplemental information on December 10, 2015. The Corps is expected to act on this application upon completion of its review, formal consultation, and environmental compliance procedures.

Implementation of the Concord Reuse Project Area Plan

The Area Plan was a result of the BRAC reuse planning process the City conducted as the LRA and the Area Plan is now part of the Concord 2030 General Plan. The Area Plan designates the land uses and establishes the land use policies that will apply to conservation and development within the CNWS Reuse Area during the decades to come. The Area Plan land use diagram is shown in Figure 1, and the approximate total acreages of land uses by type are provided in Table 4.

Table 4. Approximate Acreages of Proposed Land Uses in the Reuse Area

Land Uses (Figure 1)	**Area (acres)**
Mt. Diablo Creek Riparian Corridor	189
EBRPD PBC Area	2,516
City Conservation Lands	19
Transit-oriented development (TOD) Core*	55
TOD Neighborhoods	82
Central Neighborhoods	189
Village Centers	65
Village Neighborhoods	796
Commercial Flex	194
Campus	124
First Responder Training Center**	84
City Parks***	335
Greenways	407
Trails	9
Additional Off-Site Roads	10
Total	**5,074**

* Includes the BART parcel

** Includes the 76-acre County PBC and adjacent portion of Evora Road

*** Includes the golf course

The Area Plan specifies complete neighborhoods, extensive additions to protected open space including a regional park (the Concord Hills Regional Park within the EBRPD PBC Area), new job centers, sports facilities, and a full spectrum of community facilities and urban infrastructure, including new roads, creek crossings, public infrastructure such as stormwater detention facilities, PG&E substations, a sports tournament facility, public parks, and creek restoration with improved flood control. The Area Plan focuses on a series of villages connected by transit, allowing for a significant, new, diverse development balance while maintaining more than half of the site (nearly 3,500 acres) as parks, recreation, and open space, including passive recreation in the approximately 2,516-acre EBRPD PBC Area (Figure 1).

The Area Plan will accommodate various types of community facilities, such as a four-year university campus and a first responder center. Overall, the Area Plan provides new land use for a transit-oriented community to accommodate up to 12,272 residential units and 6.2 million square feet of

commercial and retail uses, and nearly 3,500 acres of recreation, open space, and conservation. Area Plan implementation will be phased over 35 years. The precise timing of new development will depend upon when the Navy is able to transfer land, when CERCLA response actions are completed, economic conditions, demographics, transportation, technology, regional lifestyles, real estate trends, and other factors.

Planning to date has been at the program level only, with areas subject to urban development, recreational uses, conservation, etc. defined in terms of location and type of use only, but precise building or roadway locations (i.e., specific types of residential or commercial buildings, and block layouts) have not been defined. The Area Plan is defined well enough to demonstrate the amount of disturbance that will occur on the EDC Area and County PBC Area, and future development will be subject to the Area Plan policies, which preclude urban development in the EBRPD PBC Area and require creek buffers and other environmental protection measures. Likewise, the Area Plan and the EBRPD's Concord Hills Regional Park Land Use Plan are sufficiently defined to evaluate the level of disturbance and overall enhancement within the EBRPD PBC Area.

The City and future EDC Area developers will conduct further geotechnical, hydrological, and soil investigations in the EDC Area to help inform the City's environmental review under the California Environmental Quality Act (CEQA) as it considers site-specific land use entitlements, and as the City evaluates opportunities for on-site wetland creation or enhancement. Such investigations will be needed to determine construction feasibility and to assess the environmental effects of subsequent development activities in accordance with CEQA. Pre-engineering investigations will be localized, temporary/short-duration, and minimally invasive. This pre-engineering investigative work may occur before the EDC property is conveyed to the City, or following transfer but before the City formally authorizes development.

City and City-Authorized or Approved Development, Operational, and Conservation Activities on the EDC Area (2,380 acres)

Residential and Transit-Oriented Land Uses

The City will focus the highest-intensity uses on the site around the North Concord/Martinez BART Station and within the cores of three villages along the western edge of the site, between Mt. Diablo Creek and the western site boundary, southeast of Willow Pass Road (Figure 1). The planned central neighborhood, three village centers, and associated village neighborhoods will include a combined 1,050 acres and 9,300 housing units. The villages will have a neighborhood district character similar to, but at slightly lower intensities/densities than, the North Concord/Martinez BART Station area. Within a half-mile of the North Concord/Martinez BART Station, a Transit-oriented Development (TOD) land use category, including approximately 137 acres and 2,900 housing units, will allow for a mix of uses including residential, office, retail, community facilities, and parks and recreation. BART will redevelop its 24-acre parcel, which is currently occupied entirely by parking lots, into transit-oriented development similar to the transit-oriented land uses on the EDC Area. Approximately 25 percent of the housing units will be in multi-unit buildings, 40 percent will be in attached single-unit buildings, 25 percent will be in mixed attached and detached single unit buildings, and 10 percent will be detached single units. Twenty-five percent of all housing units, both rental and ownership, will be made available at varying levels of affordability, and in accordance with BRAC regulations and binding legal agreements approved by the U.S. Department of Housing and Urban Development, 135 units of multi-family transitional housing will be provided to address homelessness.

Site development will include two areas of commercial/retail flex uses covering 194 acres, that will allow varying proportions of light industrial, retail, and office uses depending upon market demand.

Transportation

A high-capacity bus transit service will serve the site, connecting the North Concord/Martinez BART Station area to the villages and linking them to downtown Concord and existing neighborhoods. Transportation also will include on and off-street bicycle and pedestrian networks, reflecting the Area Plan, Contra Costa Countywide Bike and Pedestrian Plan, and Concord Trails Master Plan.

The roadway network includes limited crossings of Mt. Diablo Creek and limited roadway access into the neighborhoods to the west of the site. With the implementation of the Area Plan, the City will remove 14 existing Mt. Diablo Creek crossings and construct seven new road crossings: parallel to State Route 4 on the north side of the highway, below the State Route 4 overpass, between State Route 4 and Willow Pass Road, just upstream from Willow Pass Road, and connecting the southeastern portion of the development area to Bailey Road. In addition, two pedestrian bridges are proposed between Willow Pass and Bailey Roads. Each of the new crossings will be a clear-span bridge that avoids impacts within the creek channel and minimizes floodplain impacts. As a result, once the Area Plan is implemented, there will be fewer Mt. Diablo Creek crossings than currently exist, resulting in a net reduction of bridges and culverts along the creek.

The proposed action also includes road improvements within all rights of way within the CNWS Reuse Area plus some specific adjacent areas not currently owned by the Navy, but where the City will make road improvements to facilitate access to the CNWS Reuse Area. These areas include the Evora Road extension between Willow Pass Road and the CNWS Reuse Area boundary, the Willow Pass Road/State Route 4 interchange, and the Port Chicago Highway/State Route 4 interchange, in addition to widening of Willow Pass Road and Bailey Road (Figure 1). These road improvements, which will involve areas not currently owned by the Navy (i.e., within existing road rights of way) will disturb up to approximately 10 acres.

The Contra Costa Canal and Clayton Canal pass through the Reuse Area but are not owned by the Navy. They will not be part of any conveyance and are not incorporated into the Area Plan. However, some transportation and utility infrastructure included in the Area Plan will need to cross over (e.g., bridges) or under (e.g., utilities) the canals.

Community Facilities

The Area Plan will integrate communities through land use and transportation planning. In addition, the Area Plan seeks to serve the community with various community-serving uses and facilities, referred to collectively in this Biological Opinion as community facilities. The typical types of community facilities will include police, fire, and emergency response; libraries; schools (K–12), colleges/universities, and technical schools; community and cultural centers, performing arts centers and other municipal functions; and parks and greenways. Typical private and not-for-profit community facilities will include research and educational institutes; foundations or not-for-profit institutions; performing art centers; museums and cultural centers; Veterans' facilities; hospitals, clinics, and other medical facilities; senior care facilities; environmental education and interpretive centers; and places of worship. In addition, there will be an approximately 75-acre tournament sports facility located southeast of Willow Pass Road on the northeast side of Mt. Diablo Creek (Figure 1). The Area Plan identifies the types of community facilities that will be built and operated, but the specific mix of uses of these community facilities will be determined at the design stage.

Roughly half of the Diablo Creek Golf Course is currently owned by the City; the other half is currently owned by the Navy and will be conveyed to the City. The continued operation and maintenance of the golf course is included in the Area Plan. Such activities include operation of and play within the golf course, as well as continued vegetation management, management of the artificial ponds used for irrigation, and maintenance of existing structures, paths, golf cart bridges over Mt. Diablo Creek, and other infrastructure. Covered activities on the golf course will also include reconfiguration and minor construction, such as that associated with configuring holes after a new road facilitating access to the CNWS Reuse Area in the southern portion of the existing course is built.

The Area Plan identifies two locations for new Citywide Parks: an approximately 45-acre park along Olivera Road, and an approximately 100-acre Citywide Park adjacent to the tournament sports facility southeast of Willow Pass Road. The Area Plan also features a connected network of linear open spaces, or greenways. These greenways form part of the area's overall circulation network with integrated pedestrian and bicycle paths. They provide space for recreational amenities such as picnic areas, community gardens, and play fields. Among the trails proposed are a trail along the southwestern side of Mt. Diablo Creek, near the outer edge of an approximately 300-foot-wide Riparian Corridor, and another City trail along the northeastern side of Mt. Diablo creek along an existing railroad track that will connect to an EBRPD regional trail within its regional park (Figure 1).

EDC Infrastructure

In addition to the specific facilities and land-use elements described above, utility and stormwater infrastructure will be constructed. Stormwater detention facilities will include multiple, relatively small basins distributed throughout the development area. Such facilities will be designed to maintain dry conditions except for brief periods following storms. Stormwater outfalls to Mt. Diablo Creek are not envisioned, as on-site detention is proposed, but limited outfalls may be needed as detailed design progresses. Utility infrastructure will include water lines below Mt. Diablo Creek between water tanks on the northeast side of the creek and development areas (Figure 1). Other infrastructure (e.g., electrical and fiber optic lines) may also cross the creek, primarily attached to bridges or on overhead lines.

Riparian Corridor and Creek Restoration

The City Property will accommodate an approximately 189-acre Mt. Diablo Creek Riparian Corridor (Figure 1). The City or EDC Area developers will modify the Mt. Diablo Creek Riparian Corridor to stabilize eroding creek banks, facilitate flood conveyance, and improve habitat conditions through a variety of habitat restoration actions. Banks will be graded to widen the creek corridor to promote flood conveyance, stabilize the banks for geomorphic stability and public safety, and create more favorable habitat conditions. The majority of existing native riparian vegetation will be left in place as banks behind that vegetation are laid back to provide greater flood conveyance and additional planting area for up to 80 acres of riparian woodland, oak woodland, and oak savannah habitat. Habitat features such as coarse woody debris and floodplain depressions will be incorporated as well, and invasive plants within the Riparian Corridor will be removed. To prevent future channel incision and improve channel stability, approximately 20 buried grade control structures composed of boulders will be installed below existing grade and the channel will be restored following construction. Channel restoration will also occur where existing culverts are removed. The City will conduct long-term management and maintenance of the Riparian Corridor, Mt. Diablo Creek, and infrastructure within and crossing these features. Habitat management activities may include periodic removal or management of invasive plants, native tree and shrub planting, and modification or

addition of habitat features such as coarse woody debris or depressions. Flood management activities may include removal of fallen trees (if they cause excessive erosion or backup of water), remedial grading if erosion occurs, or other similar activities. Restoration designs and management and maintenance activities will be described in more detail in an approved Riparian Habitat Enhancement and Management Plan (see Conservation Measure 7 below).

Wetland Preservation/Creation

The City is proposing to avoid fill of some of the more extensive existing wetlands on the EDC Area, particularly near the former airfield. In addition, the area near the former airfield may be able to accommodate 10 or more acres of wetland restoration/creation, such as in the area indicated on Figure 3 or elsewhere south of the old airfield. The City proposes to create wetlands in the EDC Area to compensate for impacts to wetlands and the City anticipates the 404 permit or water quality certification issued by the Regional Water Quality Control Board may require wetland creation. The City or developers of the EDC Area may also create additional wetlands in the Mt. Diablo Creek floodplain, and may perform creek restoration or realignment, accompanied by wetland enhancement along portions of Willow Pass Creek. Any wetland creation in the Riparian Corridor will be described in the Riparian Habitat Enhancement and Management Plan (see Conservation Measure 7 below). The City or EDC Area developers will perform soils and hydrological investigations, which may involve borings and the installation of piezometers, to inform detailed wetland creation plans. Such activities may occur prior to land transfer or the start of construction-related activities.

Water Tanks and City Conservation Lands

The City will construct two water storage tanks, an 8,500,000-gallon domestic water tank and an 80,000-gallon recycled water tank (each 20 feet in height) and a pipeline on an approximately 27-acre portion of the EDC Area northeast of Mt. Diablo Creek, contiguous to the EBRPD PBC Area (Figure 1). Parking for tank access will be provided in the immediate vicinity of the water tanks. The water storage tanks will be connected to the EDC Area via two pipes that will be installed across Mt. Diablo Creek. The pipelines from the tanks to the development areas will be buried beneath the creek bed, and the bed will then be restored to natural conditions above the pipes. The total estimated permanent disturbance associated with the tanks is approximately 8 acres for the storage tanks and parking with an additional 8 acres of temporary disturbance during pipeline construction. Terrestrial habitats temporarily disturbed during pipeline construction will be restored to California annual grassland habitat.

After the water tanks and pipeline are built, the City will designate the 19 acres not permanently impacted for conservation purposes (hereafter "City Conservation Lands") (City Conservation Lands in Figure 1). The approximately 19-acre area designated as City Conservation Lands will be managed to provide grassland habitat suitable for use by wildlife consistent with upland conditions in the EBRPD PBC Area (see Conservation Measure 4 below). The EBRPD PBC Area and City Conservation Lands are referred to collectively in this Biological Opinion as the "On-site Conservation Lands."

County PBC for Sheriff/Fire Department Facility

The 76-acre County PBC Area north of State Route 4 will be conveyed to the Contra Costa County Sheriff's Department and the Contra Costa County Fire Protection District (Figure 1). This already developed site will be redeveloped as a first responder training and emergency command facility.

BART Parcel Redevelopment

BART will redevelop its 24-acre parcel, which is currently occupied entirely by parking lots, into transit-oriented development as described above in the section on transit-oriented land uses on the EDC Area.

City-Sponsored Habitat Enhancement on the EBRPD PBC

The Area Plan envisions City-sponsored resource enhancement, management, and preservation within the approximately 2,516-acre EBRPD PBC Area. Such conservation activities will include preserving, enhancing, and managing existing breeding and upland habitat for the Central California tiger salamander, California red-legged frog, and Alameda whipsnake, and creating new aquatic breeding habitat for the Central California tiger salamander and California red-legged frog that will increase local population sizes of these species and facilitate dispersal and gene exchange throughout the On-site Conservation Lands and between the On-site Conservation Lands and nearby areas. The City's habitat enhancement actions will be conducted according to an approved Habitat Mitigation and Monitoring Plan (HMMP) (see Conservation Measure 5 below).

City-Sponsored Off-Site Conservation

In addition to preserving and managing the On-site Conservation Lands as partial mitigation for the impacts of developing the EDC Area, the City (or future EDC Area developers) will also provide off-site habitat conservation. The off-site conservation will further offset the impacts of development of the EDC Area by, or authorized by, the City. The acreage of off-site habitat conservation will be sufficient to ensure that, in combination with the On-site Conservation Lands, total conservation lands compensate for impacts resulting from EDC-related development of currently undeveloped portions of the EDC Area south of State Route 4 at a 2:1 (conservation:impact) ratio (see Conservation Measure 6 below).

East Bay Regional Park District Concord Hills Regional Park

The 2,516-acre EBRPD PBC Area will comprise the Concord Hills Regional Park and will include the operation of approximately 30 acres of roads, 30 acres of trails, 13 acres of visitor serving amenities facilities (e.g., visitor center, educational signposts, restrooms, parking areas, picnic/camping areas), and 12 acres of operations facilities (e.g., corporation yard, staff offices, and native plant nursery) totaling 85 acres of park uses. Of these 85 acres, approximately 68.5 acres will occur within existing developed sites (building sites, paved and unpaved roads, parking areas, bunkers, and railroad tracks) from the Navy's operation of the property. An additional approximately 16.5 acres of new development will occur from implementation of the Concord Hills Regional Park Land Use Plan. The EBRPD PBC Area currently includes existing roads, rails, and other developed sites that are not proposed for use under the Concord Hills Regional Park Land Use Plan and will be planned and available for restoration and management within the On-site Conservation Lands. It is an objective of the EBRPD's Land Use Plan to restore or reuse as much of the existing roads, rails, and other developed sites within the PBC Area as feasible and as funding becomes available.

The EBRPD PBC Area includes known and potential breeding habitat for Central California tiger salamanders and California red-legged frogs, and the majority of high-quality habitat for these species within the Reuse Area is located within the On-site Conservation Lands. The On-site Conservation Lands will be preserved and managed as habitat for Central California tiger salamander, California red-legged frog, and Alameda whipsnake according to an approved Long Term Management Plan (see Conservation Measure 4), enhanced according to an approved HMMP

(see Conservation Measure 5), and restored as described in Conservation Measure 8i. Collectively, these areas encompass approximately 2,535 acres. Table 5 provides the approximate acreage of existing habitat types within these On-site Conservation Lands and the habitat types are shown on Figure 2.

Table 5. Approximate Acreages of Existing Habitat Types on On-Site Conservation Lands

Habitat Type (Figure 2)	Area (acres)
California Annual Grassland	2,263
Coyote Brush Scrub/Coastal Sage Scrub	0.2
Developed*	120
Oak Woodland/Savannah	99
Orchards and Plantations	37
Riparian Woodland	1
Freshwater Marsh	5
Seasonal Wetlands	5
Creeks, Drainages, and Ponds	5
Total	**2,535**

* Includes buildings, roads, parking areas, railroad tracks, and bunkers

The EBRPD is preparing the Concord Hills Regional Park Land Use Plan that will accommodate conservation, passive recreation, environmental education, and park operations facilities. Additionally, the Concord Hills Regional Park Land Use Plan identifies a visitors center that will be operated jointly with the National Park Service to highlight the history of the Port Chicago Naval Magazine National Memorial which is located offsite and currently inaccessible to the public. The EBRPD plans to adopt the Concord Hills Regional Park Land Use Plan in 2017. The initial phase of regional park development will begin upon transfer to EBRPD and will occur in the area southeast of Bailey Road. Initial work will focus on development of staging areas for park visitors and conversion of existing roads and rail lines into a passive recreational trail system. Subsequent phases are expected to include the development of the visitor's center area and development of a linear trail between Bailey Road and Willow Pass Road (Figure 5).

In addition to managing the Concord Hills Regional Park for recreational uses, the EBRPD will manage the park in perpetuity for the protection and benefit of special-status species according to an approved Long Term Management Plan (see Conservation Measure 4 below). The EBRPD is a special district with the primary mission of protecting natural and cultural resources in balance with passive recreation and environmental education. The EBRPD is equipped with professional land stewards, rangers, and public safety employees trained specifically to manage public access and open space lands for the benefit of species. The EBRPD is authorized to enforce any park rules through its Ordinance 38. The Concord Hills Regional Park Land Use Plan will identify specific management prescriptions that will ensure that public access will be permitted in a manner that is consistent with species protection.

The regional park will include two use zones: Conservation Zone 1, where park uses will be limited to passive recreational trails and Conservation Zone 2, where limited park facilities will be developed

(Figures 5 and 6). Conservation Zone 1 is the zone where the primary focus is conservation and management of natural resources. Public access will be limited to passive recreation trails that will be fenced where necessary to prevent unauthorized access to breeding ponds and other sensitive habitats. Trail use will include on-trail hiking, non-motorized bicycle riding, walking, horseback riding, wildlife observation and photography, and environmental education and interpretive displays sited in accordance with the siting guidelines described in Conservation Measure 8 below. No off trail access, developed recreation facilities, or vehicle access (except to accommodate resource conservation) will be allowed in the approximately 2,390-acre Conservation Zone 1. Conservation Zone 1 includes buffer zones (where there will be no recreational uses or facilities) of a minimum of 500 feet around the most highly sensitive habitat areas, including all Central California tiger salamander and California red-legged frog breeding habitat, and a 500-foot buffer zone around two existing patches of coastal sage scrub located in the upper part of Rattlesnake Canyon (the highest-quality potential Alameda whipsnake habitat on the site). Recreational uses will be controlled using a variety of techniques including fences, gates, clearly signed trails, educational kiosks, trail maps and brochures, ranger and police patrols, and interpretive programs. Trails will be established primarily on existing roads and rail lines which will minimize the need for new ground-disturbing activities. Multi-use trails will generally be 10 feet wide with 2-foot shoulders, and single-use trails will be no more than 8 feet wide. Trail access will be limited to the hours between sunrise and sundown.

Within Conservation Zone 1, up to 620 acres (see Resource Protection Zones on Figures 5 and 6) will be managed solely for resource protection and no public access or trail use will be permitted. These Resource Protection Zones will protect the areas of Rattlesnake Canyon, the Hilltop Ponds, Cistern Pond, and Indian Springs. An area of approximately 400 acres will be reserved as a Resource Protection Zone around Rattlesnake Canyon. An area of about 35 acres will be reserved as a Resource Protection Zone around Cistern Pond. An area of approximately 185 acres will be reserved as a Resource Protection Zone around the Hilltop Ponds, Eagles Nest site, and Indian Springs (Figures 6 and 8).

Conservation Zone 2 is an approximately 126-acre zone in which approximately 35 acres of recreation and park facilities will be permitted in accordance with the siting guidelines described in Conservation Measure 8 below. Within the 91 acres of Conservation Zone 2 that do not contain recreational and park facilities, public access will be limited to passive recreation trails and land will be managed for conservation consistent with Conservation Zone 1. The intent of Conservation Zone 2 is to limit the area in which park facilities could be located, while providing necessary flexibility to allow for design development. Of the 35 acres to be developed, approximately 25 acres will overlap with existing developed sites while 10 acres of new development will occur.

Park facilities proposed in this zone will be limited to hiking overlooks consisting of park benches at key vistas, picnic areas located within existing developed magazines, group picnic facilities along the primary park access road, hike-in picnic areas, reuse of existing developed magazines for interpretive displays and park programming, a backcountry campsite, and a hike-in group campsite.

The 35 acres of development within Conservation Zone 2 will also include a visitors and interpretation center conveying the history of the Port Chicago Naval Magazine National Memorial as well as the natural and cultural history of the property and surrounding region. Additionally, Conservation Zone 2 will include park operations and support facilities necessary to support park operations and stewardship. The park operations and support facility will provide office and storage space for staff and equipment necessary for park operations, land management, and stewardship activities. A public safety office providing for park patrol and wildland fire response to support the

park and other lands conserved throughout the region will be constructed within the park operations and support facility. An approximately 5-acre native plant nursery will also be established to support land restoration efforts.

Table 6 summarizes the approximate extent of proposed Regional Park activities and conservation zones.

Table 6. Summary of Proposed Regional Park Activities.

Regional Park Acreage (All Zones- 2,516 Acres)	Miles	Acres	Acres on Existing Developed Sites	Acres New Development
Area restricted from park use		**2,430.4**	*NA*	*NA*
Park uses (including roads, trails, and facilities)		**85.6**	**69**	**16.5**
Roads	8.2	24.3	23.6	0.7
Trails	22.3	35.8	26.2	9.6
Visitor Serving Facilities and Operations		25.5	19.2	6.2
Total Acres (All Zones)		**2,516.0**		
Conservation Zone 1 (2,390 Acres)	**Miles**	**Acres**	**Acres on Existing Developed Sites**	**Acres New Development**
		2,390.0		
Resource Protection Zones (no public access) in Conservation Zone 1		**620.0**		
Rattlesnake Canyon		**400.0**	*NA*	*NA*
Cistern Pond		**35.0**	*NA*	*NA*
Hilltop Ponds, Eagle's Nest Site, Indian Springs		**185.0**	*NA*	*NA*
Area with restricted park use (access limited to trail corridors; corridors not included in acreage) in Conservation Zone 1		**1,718.9**	*NA*	*NA*
Park Uses within Conservation Zone 1	**25.9**	**51.1**	**42.3**	**8.8**
Roads (assume 85% in Conservation Zone 1)	7.0	20.7	20.1	0.6
Trails (assume 85% in Conservation Zone 1)	19.0	30.4	22.3	8.2
Park Facilities (not including roads and trails)		0.0	0.0	0.0
Conservation Zone 1 Total Acres		**2,390.0**		
Conservation Zone 2 (126 Acres)	**Miles**	**Acres**	**Acres on Existing Developed Sites**	**Acres New Development**
Area not designated for roads, trails, or park facilities in Conservation Zone 2		**91.5**	*NA*	*NA*
Park Uses within Conservation Zone 2	**4.6**	**34.5**	**26.7**	**7.8**
Roads (assume 15% in Conservation Zone 2)	1.2	3.6	3.5	0.1
Trails (assume 15% in Conservation Zone 2)	3.3	5.4	3.9	1.4
Park Facilities (not including roads and trails)		25.5	19.2	6.2
Conservation Zone 2 Total Acres		**126.0**		

Proposed Conservation Measures

The following Conservation Measures are part of the proposed action to minimize and mitigate its potential effects on listed species and their habitat.

1. *Conditions of Transfer.*

a. The Navy shall require as a condition of transfer or lease, to be memorialized in the appropriate real estate agreement (such as an EDC Memorandum of Agreement between the Navy and the City), that the initial transfer of the EBRPD PBC Area from the DOI-NPS to the EBRPD is completed prior to the start of demolition or construction within the EDC Area related to implementation of the Area Plan.[4]

b. The Navy shall not assign the EBRPD PBC Area property to the DOI-NPS until Navy has received notice from the Service that a draft conservation easement or other legal mechanism for the preservation of the EBRPD PBC Area (measure 4(a) and a Long Term Management Plan for the EBRPD PBC Area and City Conservation Lands (measure 4(c) have been approved by the Service, and that the City has provided the Service with a draft Property Analysis Record (PAR) or PAR-like analysis for the long term management and monitoring actions required by the Long Term Management Plan, a description of the funding mechanism, and a funding schedule in accordance with measure 4(d).

2. Interim Land Management.

a. *Navy*: During Navy ownership of property, Navy shall (with the exception of remediation activities in select areas that are covered by a separate Biological Opinion or by additional coordination with the Service) manage the Reuse Area to maintain or improve habitat conditions for listed species. This will include:

i. Maintenance of appropriate grass heights for listed species via grazing within the On-site Conservation Lands;
ii. Controlling noxious weed infestations;
iii. Controlling access to the property and preventing trespass and vandalism;
iv. Conducting maintenance or repairs necessary to prevent degradation of upland or aquatic habitat (i.e., erosion control, fencing repair, bank/berm repair).

b. *City*: During the City's ownership of the EDC Area (or any portion of the EDC Area) prior to development activities, the City shall manage the EDC Area to avoid habitat degradation in areas such as the Mt. Diablo Creek Riparian Corridor that will be subject to only limited development and to avoid habitat degradation in the On-site Conservation Areas. Preventing habitat degradation in the Mt. Diablo Creek Riparian Corridor and On-Site Conservation Areas may require the following management actions (i.e. weed/vegetation control, erosion control, etc.) within the Mt. Diablo Creek Riparian Corridor, the City Conservation Lands, and the EDC areas adjoining or near these areas. This management will include:

i. Controlling noxious weed infestations.

[4] The pre-engineering activities defined in the Proposed Action, and ground disturbance associated with CERCLA remediation work, grazing, or that is necessary to repair and operate existing utility infrastructure, may proceed prior to completing the EBRPD PBC Area initial transfer.

ii. Controlling access to the property owned by the City and preventing trespass and vandalism.
iii. Conducting maintenance or repairs necessary to prevent degradation of upland or aquatic habitat (i.e., erosion control, fencing repair, bank/berm repair).

c. *EBRPD*: During EBRPD ownership of property, EBRPD will provide interim management of the property in accordance with a Service-approved Interim Management Plan that will be included in the Long Term Management Plan (see Conservation Measure 4(c) below). Interim management may commence prior to transfer to EBRPD if the DOI-NPS holds title for an extended period of time and the Navy, DOI-NPS, and EBRPD institute a mechanism to facilitate early interim management.

3. *City Implementation and Oversight of the Conservation Measures.*

The LRA will be the City agency responsible for ensuring the City and future developers of City-authorized projects comply with the Conservation Measures contained in this Biological Opinion that apply to the development of the City Property, including the on-site and off-site compensatory mitigation measures. The LRA will also monitor the EBRPD's preservation and management of the On-site Conservation Lands for compliance with the Biological Opinion. Specifically, the LRA will be responsible for Conservation Measures 2(b), 7, 10, 12, 13 (pre-development and post-development minimization measures), Conservation Measures 1(b), 4, 5, 6 (on-site and off-site compensatory mitigation measures for the effects of City-sponsored or authorized development),[5] and Conservation Measure 11 (annual reporting to the Service documenting the City's ongoing compliance with the Biological Opinion). In addition, the LRA will implement, and require future developers to implement, Conservation Measure 9 (construction-related measures that will avoid or minimize effects to listed species during the development of the City Property).

To ensure long term compliance with the Conservation Measures, demonstrate ongoing compliance, and facilitate the Service's oversight of compliance, the City will implement the following actions:

a. In accordance with State law, the City Council will adopt one or more specific plans for the City Property. All adopted specific plans will be incorporated into the City's general plan through a general plan amendment, and all subsequent City entitlements will be consistent with the specific and general plans. The City will include the avoidance and minimization measures contained in Conservation Measures 9, 10, 12, and 13 in all of the specific plan documents for the City Property, making these Conservation Measures part of the City's general plan and ensuring they are enforceable conditions of all future entitlements.

b. The City will establish development fees to pay for the City's implementation of the Biological Opinion. The City, through the LRA, will also provide funding as needed to implement the Biological Opinion. The development fees will be paid when the LRA transfers property to the party developing it, will require all developers to pay a pro rata share of the costs, and will include fees to reimburse the LRA.

[5] The City's responsibilities for implementing the Long Term Management Plan for the On-site Conservation Lands (Conservation Measures 1(b), 4(c), HMMP (Conservation Measure 5), Riparian Habitat Enhancement and Management Plan (Conservation Measure 7), off-site habitat long term management plan (Conservation Measure 6(c)(iii)), and the funding plans for the on-site and off-site mitigation plans (Conservation Measures 4(d), 6(d)) will be addressed in those documents, and any responsibilities required under those plans will supersede any conflicting measures contained in Conservation Measure 3.

c. The City Council, sitting as the LRA, will adopt a resolution directing the Executive Director for the LRA (the "Executive Director") to: (1) put all procedures in place needed to ensure the LRA, and all City-authorized development, adhere to the Service's Biological Opinion; (2) collect development fees to pay for the City's implementation of the Biological Opinion; (3) design and implement a project controls system to track compliance with the Biological Opinion; and (4) report the City's compliance to the Service. This resolution will provide the Executive Director (and his or her designees) with the following authority:

i. The Executive Director will oversee interim management of the EDC Area in accordance with Conservation Measure 2(b).
ii. The Executive Director will be responsible for coordinating the preparation, and Service approval, of the Long Term Management Plan, draft PAR, and draft funding mechanism and schedule for the On-site Conservation Lands with the EBRPD (Conservation Measures 1(b), 4(c), 4(d).
iii. The Executive Director will be responsible for preparing the final funding plan for the On-site Conservation Lands Long Term Management Plan and securing the Service's approval of the final funding plan in accordance with Conservation Measure 4(d).
iv. The Executive Director will be responsible for recording the Service-approved City Conservation Lands conservation easement deed in accordance with Conservation Measure 4(b), coordinating the off-site habitat conservation with the Service in accordance with Conservation Measure 6, and ensuring the off-site habitat conservation is implemented.
v. The Executive Director will be responsible for preparing and securing the Service's approval of the HMMP and Riparian Habitat Enhancement and Management Plan (and all associated PAR analysis and funding mechanisms) in accordance with Conservation Measures 5 and 7.
vi. The Executive Director will collect development fees and use those fees, and other funds from the City and LRA, to fund the On-site Conservation Lands Long Term Management Plan (Conservation Measure 4(d), HMMP (Conservation Measure 5), off-site compensatory mitigation (Conservation Measure 6), and the Riparian Habitat Enhancement and Management Plan (Conservation Measure 7). Through the project controls system, described in Conservation Measure 3(c) above, the Executive Director will track the development fees and other funds the LRA collects, the EDC Area development requiring compensatory mitigation, the amount and location of all compensatory mitigation the City has provided, and any on-site or off-site mitigation that is available for future development phases (Conservation Measure 11(b)).
vii. All City-issued entitlements will include quarterly and annual reporting conditions to facilitate the City's oversight and enforcement of the construction and post-construction avoidance and minimization measures required by Conservation Measures 9, 10, 12, and 13. The Executive Director will review the quarterly and annual reports for compliance, require corrective action as necessary for compliance, and track compliance through the project controls system described in Conservation Measure 3(c) above.
viii. Every year beginning after the first full year following the EBRPD PBC Area Initial Transfer described in Table 3 of the Biological Opinion, the Executive Director will inspect the EBRPD PBC Area for compliance with Conservation Measures 2(c), 4(e), 8(e)-(h), 8(j), 8(n) and the Service-approved conservation easement deeds or other Service-approved legal mechanisms described in Conservation Measures 4(a) and 4(b).

ix. Every year beginning after the first full year following the Navy's conveyance of the EDC Initial Transfer to the City, the Executive Director will submit an "Annual Report" to the Service on behalf of the City in accordance with Conservation Measure 11.

4. *Long-Term Preservation and Management of the EBRPD PBC Area and City Conservation Lands.*

EBRPD and the City shall assure preservation and management of the On-site Conservation Lands as follows:

a. Following conveyance of the initial EBRPD PBC transfer parcel, the EBRPD will record a Service-approved conservation easement or other Service-approved legal mechanism over the initial EBRPD PBC transfer parcel, which instrument shall specify allowable uses within the EBRPD PBC transfer parcel and the restrictions and obligations that apply to those areas devoted to conservation (Table 6) and managed pursuant to the Long Term Management Plan (measure 4(a)(iii)). The EBRPD (or City) will provide the Service with a copy of the recorded document prior to commencement of ground disturbing activities within either the EBRPD PBC Area or EDC Area.

b. Following conveyance of the City Conservation Lands, the City will record a Service-approved conservation easement or other Service-approved legal mechanism over the City Conservation Lands within 60 days following the completion of the water storage tanks and related improvements.

c. The City, in coordination with the EBRPD, will develop a Long Term Management Plan describing the measures that will be taken to manage the On-site Conservation Lands and to monitor the effects of management on the Central California tiger salamander and California red-legged frog. This Long Term Management Plan must be submitted to and approved by the Service prior to the initial transfer of the EBRPD PBC Area. The EBRPD will implement the Long Term Management Plan. Monitoring described in the Long Term Management Plan will serve to ensure compliance with the terms and conditions of the Biological Opinion, gauge the effect and effectiveness of management activities, and inform an adaptive management strategy. The Long Term Management Plan will include:

i. A description of the location and boundaries of the EBRPD PBC Area and City Conservation Lands and description of existing site conditions.
ii. A description of facilities to be developed within the EBRPD PBC Area and City Conservation Lands and a description of planned recreational use within these areas.
iii. An Interim Management Plan describing how the EBRPD PBC will be managed following conveyance to EBRPD but before full funding and implementation of the Long Term Management Plan, and a schedule for transitioning from interim management to implementation of the Long Term Management Plan.
iv. A description of measures that will be taken to protect particularly sensitive resources, such as maintenance of pond berms and water control structures, bullfrog (*Lithobates catesbeianus*) management, and sedimentation, erosion, and vegetation encroachment at breeding ponds for Central California tiger salamanders and California red-legged frogs.
v. Avoidance and Minimization Measures (AMMs) to address any construction-related impacts associated with park development, with operations and maintenance activities, and with creation, restoration, or maintenance of habitat for Central California tiger salamanders and California red-legged frogs.

vi. A description of maintenance and management activities, including regular maintenance (e.g., of fencing) and less frequent, longer-term maintenance (e.g., maintenance of ponds and berms to ensure long-term functionality as breeding habitat).

vii. A description of grazing management, including approximate stocking levels, target Residual Dry Matter (RDM) levels, and an adaptive management approach.

viii. A description of habitat and species monitoring measures in the EBRPD PBC Area and City Conservation Lands, including specific, objective performance criteria; monitoring methods (e.g., RDM surveys, livestock use records); data analysis; reporting requirements; monitoring schedule; an adaptive management approach based on monitoring; etc.

ix. A description of dog management measures that will identify areas suitable for dog access and conditions on use, as well as areas where no dogs will be permitted.

x. A contingency plan for elements that do not meet performance criteria. This plan shall include specific triggers for remediation if performance criteria are not being met and a description of the process by which problems (e.g., presence of non-native predators and competitors) will be remediated.

xi. A description of the relative roles and responsibilities of the City and EBRPD in managing, maintaining, and monitoring the EBRPD PBC Area and City Conservation Lands. For example, the City will be responsible for providing funding that the EBRPD will use to perform the management, maintenance, monitoring, and reporting activities that are necessary for the conservation of listed species and their habitats within the EBRPD PBC Area and City Conservation Lands in accordance with the City's mitigation requirements for impacts from EDC Area-related development. The EBRPD will be responsible for performing those activities and for funding and implementing (i) mitigation for EBRPD's development of the EBRPD PBC Area for park purposes, and (ii) avoidance, minimization, and management arising from passive recreation, interpretive or educational use, and other regional park activities under the EBRPD's Concord Hills Regional Park Land Use Plan. Both the City, as described in Conservation Measure 3, and the EBRPD will be responsible for tracking and ensuring compliance with the conditions of this Biological Opinion and successful implementation of the Long Term Management Plan.

d. The City will fund the long-term management and monitoring of habitat required by the Long Term Management Plan as described in measure 4(c)(xi). The City will establish a funding mechanism to provide funding for monitoring and management (per the Long Term Management Plan) in the EBRPD PBC Area and City Conservation Lands in perpetuity. Funding for the long-term management and monitoring will be phased in accordance with the phasing of the development of the EDC Area (which will provide the City with the necessary funds). The City will provide a draft PAR or PAR-like analysis for the long-term management and monitoring required by the Long Term Management Plan, funding mechanism description, and funding schedule to the Service prior to the initial assignment of the EBRPD PBC (as described in Conservation Measure 1(b). The City will provide a final funding plan (including funding mechanism, amount, and schedule) to the Service; a final funding plan and PAR must be approved by the Service prior to ground disturbance in the EDC or EBRPD PBC Areas.

e. A Service-approved conservation easement or other Service-approved legal mechanism will be recorded on all EBRPD-PBC parcels for later transfer (see Figure 4) within 60 days of (i) the subsequent transfer of PBC lands to EBRPD, or (ii) the conditions set forth in measure 4(a), above, whichever is later. Any subsequent transfers of PBC lands to EBRPD will be managed

according to the approved Long Term Management Plan described in measure 4(c). The EBRPD will provide the Service with a copy of each agreement after it is recorded.

5. *City Conservation Enhancements in EBRPD PBC Area.*

The City will fund and implement enhancements of habitat for listed species in the EBRPD PBC Area and City Conservation Lands according to a Service-approved HMMP. These enhancements, and thus funding of these enhancements, will be phased in accordance with the phasing of the development of the EDC Area (which will provide the City with the necessary funds). The HMMP will be approved by the Service prior to the initial conveyance of the EDC Area to the City. Concurrent with the HMMP, the City will provide the Service with a draft PAR or PAR-like analysis to determine the funding needed to implement the HMMP, a description of the funding mechanism for the habitat enhancements, and a proposed funding schedule. A final funding plan (including funding mechanism, amount, and schedule) for these enhancements must be approved by the Service prior to ground disturbance in the EDC or EBRPD PBC Areas. The HMMP will include the following:

a. Creation of three to four new breeding ponds for Central California tiger salamander and/or California red-legged frog in the EBRPD PBC Area.

b. Enhancement of existing ponds in the EBRPD PBC. Enhancements may include: sediment/vegetation removal in breeding ponds, pond outlet repair, introduction of fine soil to the bottom of ponds to increase hydroperiod, fence repair and reconfiguration.

c. Upland habitat enhancements such as provision of debris piles to facilitate California ground squirrel establishment in areas with low ground squirrel abundance.

6. *Off-Site Habitat Conservation*

In addition to preservation and management of the On-site Conservation Lands, the City or EDC Area developers will provide off-site habitat conservation to offset effects to listed species resulting from EDC Area development. The acreage of off-site habitat conservation provided by the City will be sufficient to ensure that, in combination with the On-site Conservation Lands, the total compensatory habitat mitigation for the EDC Area-related development is at a 2:1 (acres of conservation: acres of impact) ratio for all City, or City-authorized, development of the EDC Area south of State Route 4 that is not shown as already developed on Figure 2.

The City will determine, in coordination with the Service, the habitat conservation requirements for a given phase of EDC development prior to ground-breaking for that phase. Prior to ground-breaking for a given phase, the City will provide the Service with a map showing that phase of development, the acreage of impacts to listed species' habitat from that phase, a description of the habitat mitigation proposed to compensate for those impacts, and the amount of funding that the City will contribute to support the long-term management of the mitigation lands for that phase in accordance with Conservation Measure 6(d). Ground-breaking for that phase will not occur until the Service has approved the mitigation type, location, and amount.

Phase 1 development activities within the EDC Area will be offset entirely through the City's conservation of On-site Conservation Lands. The City will provide habitat conservation at a 2:1 (conservation:impact) ratio for all City, or City-authorized, development of the EDC Area south of State Route 4 that is not shown as already developed on Figure 2. Those acres will be debited from

the total acreage of On-site Conservation Lands to determine the conservation acreage in the On-site Conservation Lands available for subsequent development phases. As described in Conservation Measure 3(c)(vi), the Executive Director will track the acreage of On-Site Conservation Lands and off-site compensatory mitigation lands the City has already used as mitigation or that are still available as mitigation for future development phases, and this information will be reported to the Service annually as described in Conservation Measure 11(b)(ii). Only the On-site Conservation Lands[6] that have been preserved in accordance with Conservation Measure 4 above will be considered as available On-site Conservation Lands. For subsequent phases of EDC development, the City will provide habitat conservation at a 1:1 ratio on the On-site Conservation Lands and at a 1:1 ratio on off-site conservation lands. On-site Conservation Lands will be debited from the total acreage of available On-site Conservation Lands as habitat conservation is provided for each phase of development until no additional conservation credit is available within the On-site Conservation Lands. Once that point has been reached, for additional EDC development, the City will provide off-site conservation at a 2:1 ratio prior to ground-breaking for that additional development. During any phase of development, the City may (but is not obligated to) increase the amount of credit available within the On-Site Conservation Lands by removing and restoring roads and rail lines to habitat in biologically sensitive areas shown on Figure 7. For every acre of habitat the City restores, two acres of conservation credit will be available to the City.

The City will provide off-site habitat conservation in one of the following forms: (1) payment to the East Contra Costa County Habitat Conservancy, as permitted under Section 9.3.2 of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP), for the Conservancy's use in acquisition, preservation, and management of habitat; (2) purchase of credits in a Service-approved conservation bank with a service area that includes the Reuse Area; (3) preservation and management of suitable habitat off-site, within the East Contra Costa County HCP/NCCP boundary plus the remainder of the Mt. Diablo Creek watershed (or outside that area with Service approval); or (4) a combination of these approaches.

a. If such off-site conservation takes the form of a payment to the East Contra Costa County Habitat Conservancy (Habitat Conservancy), the funds paid to the Habitat Conservancy will be used for acquisition, protection, and management in perpetuity of habitat for the California red-legged frog and Central California tiger salamander. The acreage of the required conservation habitat will be determined as described above (i.e., to achieve a 2:1 conservation ratio for impacts to any portion of the EDC Area south of State Route 4 that is not shown as already developed on Figure 2, from a given development phase, when combined with any other on-site or off-site conservation habitat provided). As evidence that appropriate mitigation is being provided, the City will provide the Service with an agreement or other document that demonstrates that the Habitat Conservancy has agreed to accept the funds and will use the funds for habitat acquisition and management for these species. The City will provide this agreement/document to the Service prior to ground-breaking for the development activities necessitating this off-site conservation.

[6] Post-remediation revegetation at Site 24A, which includes the City Conservation Lands, has been challenging, and portions of Site 24A will also be used by the City for construction of two water tanks. Only the portions of City Conservation Lands that have revegetated adequately to support grassland or scrub habitat by the time on-site conservation for the last phase of EDC development is needed will be considered as available On-site Conservation Lands.

b. If such off-site conservation takes the form of credits purchased from a Service-approved conservation bank, the City will provide proof of the applicable payment(s) to the Service prior to ground-breaking for the development activities necessitating the off-site conservation.

c. If off-site conservation occurs through preservation and management of suitable habitat off-site (other than through a payment to the Habitat Conservancy or purchase of credits in a conservation bank):

i. Prior to taking title to (or purchasing an easement on) off-site conservation lands, the City will submit to the Service information on the location and acreage of the off-site lands, existing habitat and listed species occurrences on the property, and other relevant information (i.e. title report, etc.) in accordance with any Service-adopted regulations or guidelines then in effect applicable to conserving compensatory mitigation sites. Based on this information, the Service will make a determination about whether the proposed off-site lands are appropriate for conservation.

   A. Habitat in the off-site conservation lands provided for EDC Area-related development will be suitable for both the California red-legged frog and Central California tiger salamander. Suitable habitat will be dominated by grassland, ruderal habitat, oak woodland, or other communities providing suitable conditions for resident and dispersing amphibians, and for Central California tiger salamander it will contain ponds or pools having suitable hydroperiod for Central California tiger salamander breeding and/or be located within 1.3 miles of such ponds or pools. All off-site conservation lands proposed for EDC-area related development will have documented presence of California red-legged frog. Off-site conservation lands proposed as mitigation for development south of Willow Pass Road will also have documented presence of Central California tiger salamander.

ii. The City will preserve off-site lands approved by the Service for conservation through a Service-approved mechanism and will ensure these lands are managed in perpetuity as follows:

   A. The City will provide a draft conservation easement or other legal mechanism to the Service for approval prior to the City taking title to (or purchasing an easement on) the off-site conservation lands.

   B. Following acquisition of the lands, the City will ensure a Service-approved conservation easement or other Service-approved legal mechanism is recorded over the off-site conservation lands, and will provide the Service with a copy of the recorded document prior to ground-breaking for the development necessitating the off-site conservation.

iii. Prior to recording a Service-approved conservation easement or other legal mechanism conserving the off-site lands, the City will submit an off-site Long Term Management Plan to the Service for review and approval. The off-site Long Term Management Plan must be approved by the Service prior to recording the conservation easement (or other legal mechanism). The off-site Long Term Management Plan will describe the measures that the City will take to manage the off-site conservation lands and to monitor the effects of management on the listed species. The off-site Long Term Management Plan

will identify entities to serve as the long-term land manager and easement holder, as well as the entity responsible for providing and tracking funding for long-term management. Monitoring will serve to ensure compliance with the terms and conditions of the Biological Opinion, gauge the effect and effectiveness of management activities, and inform an adaptive management strategy. The off-site Long Term Management Plan will include:

A. A description of the location and boundaries of the off-site conservation lands and description of existing site conditions.

B. A description of measures that will be taken to protect particularly sensitive resources (e.g., breeding ponds).

C. AMMs to address any temporary construction-related impacts associated with maintenance of habitat .

D. A description of maintenance and management activities, including regular maintenance (e.g., of fencing) and less frequent, longer-term maintenance (e.g., maintenance of ponds and berms to ensure long-term functionality as breeding habitat).

E. A description of grazing management, including approximate stocking levels and target Residual Dry Matter (RDM) levels.

F. A description of habitat and species monitoring measures in the off-site conservation lands, including specific, objective performance criteria; monitoring methods (e.g., RDM surveys, livestock use records); data analysis; reporting requirements; monitoring schedule; etc.

G. A contingency plan for elements that do not meet performance criteria; this plan shall include specific triggers for remediation if performance criteria are not being met and a description of the process by which problems (e.g., presence of non-native predators and competitors) will be remediated.

H. A description of the relative roles and responsibilities of the landowner, land manager, and easement holder, as well as the entity responsible for providing and tracking funding for long-term management, in enhancing, managing, maintaining, and monitoring the off-site conservation lands.

d. The City will fund the long-term management and monitoring required by the off-site Long Term Management Plan. Concurrent with the off-site Long Term Management Plan, the City will provide the Service with a draft PAR or PAR-like analysis to determine the funding needed to implement the off-site Long Term Management Plan, a description of the funding mechanism for long term management, and a proposed schedule for providing funding. A final funding plan (including funding mechanism, amount, and schedule) must be approved by the Service prior to ground-breaking for the development requiring the off-site conservation.

7. *Mt. Diablo Creek Riparian Corridor Restoration*
The City will restore and enhance riparian habitat in conjunction with implementing flood management and bank stabilization measures along the Mt. Diablo Creek Riparian Corridor. The City will prepare a Riparian Habitat Enhancement and Management Plan for review by the Service. The plan must be approved by the Service prior to ground-breaking in the EDC Area[7]. The City will be responsible for implementing monitoring and management in the Riparian Corridor according to this plan. The Riparian Habitat Enhancement and Management Plan will include the following and a schedule for implementing the following:

a. Bridge Removal and Bank/ Channel Restoration. The Area Plan includes the removal of 14 existing culverts carrying segments of Mt. Diablo Creek under crossings (and construction of nine new crossings, as described previously). Where existing bridges are removed, the City will restore the channel bed, banks, and riparian vegetation to natural conditions.

b. *Channel and Bank Modifications.* From Bailey Road downstream to State Route 4, the City will implement channel and bank modifications that will increase the width of the Riparian Corridor substantially. In many areas, the City will lay back steep banks to establish a 3:1 (horizontal to vertical) slope to provide geomorphic stability and create a suitable planting surface for native vegetation.

c. *Riparian Vegetation Restoration and Enhancement.* Riparian vegetation within the Mt. Diablo Creek Riparian Corridor is currently largely restricted to trees and shrubs that are rooted near the edge of the low flow channel. The City's proposed habitat restoration will create conditions where up to 80 acres of new riparian, oak woodland, and oak savannah vegetation can be established in areas well away from the low flow channel by converting steep eroding banks to new floodplains and moderately stable slopes.

d. *Topsoil Harvesting and Reapplication.* To ensure vegetation establishment, the City will harvest and stockpile topsoil within the graded areas along Mt. Diablo Creek and within adjacent uplands and apply it to areas that have been graded to subsoil where riparian forest, riparian woodland, and oak savanna habitats are proposed. If existing topsoil demonstrates the need for soil amendments to improve planting/revegetation, the City will amend the top 6 inches of reapplied topsoil with compost and/or nutrients to improve soil conditions (e.g., soil structure, organic matter content, and nutrient availability).

e. *Incorporation of Habitat Features.* To increase habitat values for wildlife, the City's restoration design will incorporate features such as instream structures, coarse woody debris, and depressional areas (including wetlands) in newly created floodplains.

f. *Refuse Removal.* The City will remove accumulations of trash and other unwanted debris from the creek channel, and will revegetate the affected area with native plants, to improve overall habitat quality. In addition, the City will regularly maintain the Mt. Diablo Creek Riparian Corridor to remove any new trash or unwanted debris from the creek channel.

[7] Implementation of the Riparian Habitat Enhancement and Management Plan will improve habitat conditions along the Mt. Diablo Creek corridor. Therefore, preservation of on-site and off-site conservation lands (described in Conservation Measures 4 and 6) will not be required for impacts to portions of the Mt. Diablo Creek corridor that will not be developed (e.g. by creek crossings).

g. *Control of Invasive Plants.* A total of 2.4 acres of woody and nonwoody invasive plants have been mapped in the creek corridor. The City will control or eradicate stands of invasive plants to help existing native vegetation thrive, create space for new native vegetation to become established, and hinder the spread of invasive species. The City will maintain areas where invasive plants have been removed to facilitate the re-establishment of native vegetation and hinder the spread of invasive species.

h. *Habitat Management.* A description of measures that will be implemented by the City to manage habitat enhancement features.

8. *Conservation Measures and Siting Guidelines for Educational Displays, Recreation Facilities, and Park Operation Facilities in the Regional Park (EBRPD PBC Area)*

EBRPD shall implement the following measures within the EBRPD PBC Area. These measures, including siting guidelines, will be integrated into EBRPD's Land Use Plan for the Concord Hills Regional Park and implemented by the EBRPD to minimize and avoid impacts on sensitive species and habitat in the regional park and ensure protection of the conservation lands. The EBRPD will also identify habitat enhancements that will be implemented by EBRPD to offset impacts associated with the development associated with implementation of the Concord Hills Regional Park Land Use Plan. The uses and facilities discussed below are intended to be examples of the types of park uses anticipated and do not represent a comprehensive list of allowable uses. These measures and the types and locations of facilities will be further refined in the Concord Hills Regional Park Land Use Plan and Service-approved Long Term Management Plan (Conservation Measure 4(c).

a. EBRPD will provide no more than 13 small picnic areas consisting of one or two picnic tables within Conservation Zone 2 of the EBRPD PBC Area. EBRPD will select locations that will minimize impacts to listed species for these facilities and potential locations will be described in the Long Term Management Plan to be submitted to the Service for approval (Conservation Measure 4(c). Picnic tables will be sited over 500 feet from any breeding habitat for California red-legged frog or Central California tiger salamander and will include signage and facilities necessary to minimize litter and food waste. In addition, only animal-resistant trash/recycling receptacles approved by the Service will be used in these areas. EBRPD will empty such receptacles on a daily basis, if necessary, to prevent the overflow of trash, consistent with the litter and waste management program described below. Picnic areas will be operated only during daylight hours and could include restrooms and potable water if approved by the Service. No irrigated turf or non-native landscaping shall be allowed in picnic areas. To the extent feasible, EBRPD will site picnic areas within already disturbed areas.

b. EBRPD may develop a total of up to five group picnic sites on the lower elevations of the EBRPD PBC Area pending Service approval and shall target higher use areas for location of those group picnic sites (e.g., staging areas, the Visitor Center, the City sports complex, and public roads). EBRPD will select specific locations and number of group picnic sites so as to minimize impacts to listed species, and will describe potential locations in the Long Term Management Plan to be submitted to the Service for consideration and approval (Conservation Measure 4(c). EBRPD will site all picnic sites over 1,000 feet from any California red-legged frog or Central California tiger salamander breeding habitat, and no group picnic sites will be located southwest of Kinne Boulevard in proximity to Mt. Diablo Creek. These picnic sites will consist of up to 10 picnic tables to accommodate larger groups and will include signage and facilities necessary to limit litter and food waste. Picnic areas will be operated only during daylight hours and could include restrooms and potable water. No irrigated turf or non-native landscaping shall

be allowed in picnic areas. To the extent feasible, EBRPD will site picnic areas within already disturbed areas.

c. EBRPD may develop one small primitive backpack camp within Conservation Zone 2. Any backpack (hike-in) camp located in Conservation Zone 2 will be described in the Long Term Management Plan (Conservation Measure 4(c)) and will be sited at least 1,000 feet from any known listed species breeding habitats. EBRPD will limit use to no more than 25 people. Restrooms, potable water, and trash receptacles will be provided. Private vehicles will not be allowed to drive into the backpack camp. This restriction will not apply to maintenance and emergency vehicles. With the exception of Americans with Disabilities Act (ADA) service animals, dogs will only be allowed in backpack camps on-leash. The EBRPD will ensure that use of backpack camps is adequately supervised and controlled, and may implement a reservation and permitting process for use of the backpack camp.

d. EBRPD will include a dog management section in the Long Term Management Plan (Conservation Measure 4(c). This section will identify areas suitable for dog access and areas where no dogs will be permitted. No dogs will be allowed in wetland or marsh areas, areas where prohibited by the Long Term Management Plan or any permit, or any other area designated as restricted.

e. EBRPD will site new trails and roads and all other recreational facilities (e.g., visitor center, parking lots, and picnic areas) to maintain a buffer of at least 500 feet from California red-legged frog and Central California tiger salamander breeding habitat.

f. EBRPD will realign existing trails and roads located within 500 feet of existing or proposed California red-legged frog and/or Central California tiger salamander aquatic breeding sites, where possible, to ensure a minimum 500 foot buffer from such breeding sites. EBRPD will decommission trails and roads that are within the 500 foot buffer and restore the site to natural conditions. Where realignment is not possible, or would result in greater environmental impacts, the Long Term Management Plan (Conservation Measure 4(c)) shall identify fencing, signage, and other management barriers suitable to restrict trail users to trails.

g. EBRPD will reroute the existing ridgetop road/trail adjacent to the Hilltop Ponds to maximize the distance between the trail and the ponds (Figures 5 and 6).

h. EBRPD will manage all Resource Protection Zones solely for resource protection and no public access or trail use will be permitted. These Resource Protection Zones include approximately 400 acres around Rattlesnake Canyon; approximately 35 acres around Cistern Pond; and approximately 185 acres around the Hilltop Ponds, Eagles Nest site, and Indian Springs (see Figure 8). California red-legged frog breeding sites that do not retain water year round and perennial aquatic habitat or riparian habitat are encompassed within Resource Protection Zones, allowing for potential dispersal between such areas.

i. To offset the loss of a maximum of approximately 16.5 acres of presently undeveloped land, including approximately 6.2 acres of disturbance around the proposed visitor center and other park facilities, and approximately 6.1 miles (9.6 acres) of new trail connections and 0.3 mile (0.7 acre) of new roads, EBRPD will remove 10.3 miles of rail lines in biologically sensitive areas as shown on Figure 7. Rail ties and associated rock will also be removed along a 5.6-mile portion of these former rail lines, which will be converted to trail. Further, the EBRPD will restore up to

5.7 miles of unutilized unpaved roads within Resource Protection Zones, as shown on Figure 7, to deter public use of areas closed to recreation. This may include the restoration of certain segments of existing roads near sensitive areas such that access for management would still be possible but that any existing unpaved roads that would make attractive hiking loops would be restored to natural habitats to deter use. The Concord Hills Regional Park Land Use Plan and any HMMP prepared by EBRPD for the EBRPD mitigation will describe how removal and restoration of roads and rail lines will be prioritized to meet this requirement and provide the most benefit to listed species as determined in coordination with the Service. Infrastructure removal and restoration may occur in phases, so long as completed prior to or in conjunction with any development of presently undeveloped land for park uses. The restored habitats will be managed as described in the Long Term Management Plan (Conservation Measure 4(c).

j. Roads within 300 feet of California red-legged frog and/or Central California tiger salamander breeding habitat will have a maximum speed limit of 20 miles per hour. The only road segment currently anticipated to be subject to this limitation is a segment located east of the Cistern Pond Resource Protection Area that is less than 0.25 miles in length.

k. The Long Term Management Plan shall identify fencing plans throughout the On-site Conservation Areas. Where appropriate, fences or other symbolic barrier shall be erected around California red-legged frog and/or Central California tiger salamander breeding sites as appropriate to deter off-trail use of these aquatic habitats by park users. Fencing will be placed 75 feet from the aquatic habitat and will include signs informing visitors of the importance of protecting the listed species and habitats that occur at these locations and relevant laws and penalties for harming or harassing these species. If it is determined by the Service that fencing of aquatic habitats is not appropriate, alternative strategies to ensure deterrence of off-trail use, including fencing of trail corridors, shall be explored.

l. Park uses around the larger rock outcroppings that provide potential habitat for the Alameda whipsnake will be limited to non-motorized passive recreational use. Informational signage will be installed to educate visitors regarding potential Alameda whipsnake habitat.

m. No lighting will be placed within or immediately adjacent to (within 500 feet of) known California red-legged frog and/or Central California tiger salamander breeding habitat or proposed breeding ponds for these species. Lights will be directed away from breeding habitat, will be limited to the minimum number required for human safety and facility security, and will follow Lighting Zone 1 guidelines (as defined in the Illuminating Engineering Society of North America's Recommended Practice 33 and referenced in Leadership in Energy & Environmental Design guidance). Locations where lighting is proposed will be described in the Long Term Management Plan (Conservation Measure 4(c).

n. Normal park operating hours will be limited to dawn to dusk. EBRPD will limit nighttime recreation, with the exception of camp facilities, to occasional (not more than twice per month unless specifically approved by the Service) interpretive and/or recreational events specifically approved by EBRPD. These nighttime activities will not occur when there is a 50 percent or greater probability of rain (based on the nearest National Weather Service forecast).

o. EBRPD will prohibit collection of aquatic organisms within the regional park and prohibit the release of aquatic organisms into any water body or waterway in the regional park, without prior Service approval.

p. Entrance points to existing roads, trails, and railroad tracks that are not designated as part of the regional park facilities will be closed using signage, barriers (e.g., fencing or planted vegetation), and/or, mechanical removal and revegetation of the feature.

q. EBRPD will implement a litter and waste management program to effectively meet demand and ensure that all trash is properly contained and unavailable to nuisance/predatory wildlife species. Elements of this program will include staff outreach and public education, routine litter and nuisance pickup and removal, and availability of sufficient waste containers. Waste containers will be designed so that animals such as common ravens (*Corvus corax*) and raccoons (*Procyon lotor*), which are predators of special-status species, cannot remove the trash within. These containers will be emptied regularly to prevent overfilling.

9. Construction-related Avoidance and Minimization Measures for all City, EBRPD, and First Responder Training Facility Activities

Implementation of the Area Plan within the CNWS Reuse Area will be phased, and the following avoidance and minimization measures (AMMs) will apply to each phase of development as well as enhancement and restoration activities. The City will be responsible for implementing these AMMs or ensuring that they are implemented by making them enforceable conditions of approval of any permits or entitlements authorizing development within the City Property. The City will also implement these AMMs when City-required enhancement or restoration occurs on the EBRPD PBC Area. The EBRPD will be responsible for implementing these AMMs, as applicable, for all other activities in the EBRPD PBC Area. In the discussions of the AMMs below, the term "project proponent" refers to the entity that is implementing a development activity requiring compliance with these AMMs, which may include the City, EBRPD, a developer, or a contractor.

Because the BART and County PBC lands (see Figure 1) are already developed and thus do not provide suitable habitat for listed species, AMMs will not be implemented for redevelopment on those lands. On the golf course, only those AMMs followed by an asterisk (*) below will be implemented and then only for major construction activities (i.e., road construction or major realignment of fairways associated with the road construction). AMMs for Alameda whipsnake will only be implemented southeast of Bailey Road.

a. *SWPPP.* For all construction activity involving clearing, grubbing, or grading, the project proponent will implement a Stormwater Pollution Prevention Plan (SWPPP) containing Best Management Practices (BMPs) designed to prevent construction-related discharge into surface waters. BMPs for water quality shall be implemented during all construction activities within the bed and banks of Mt. Diablo Creek, Willow Pass Creek, and other drainages, and in upland areas where runoff could transport materials, to minimize mobilization of sediments and other harmful materials into downstream areas. These BMPs must consider not only mobilization of sediments during construction (which will likely occur primarily in dry conditions), but also the potential for sediments loosened by construction activities to be moved downstream during the following wet season. These BMPs must address at least the following items: mobilization of sediment due to gravity, erosion, or runoff during construction; potential spills of fuel or other chemicals into aquatic habitats; operation of equipment within flowing water; and stabilization (e.g., with vegetative cover) of any bare soils to prevent erosion and sedimentation.*

b. *Restoration of Temporary Impacts.* Areas that are temporarily affected by project-related work and that are not proposed for subsequent development will be restored by the project proponent to

pre-existing or better condition upon completion of work according to a Service-approved revegetation plan. Restored areas will be monitored for two years post-construction to determine whether restoration was successful as defined in the revegetation plan. The City will provide the results of post-construction monitoring to the Service. Areas that are impacted by project-related work and that will lie dormant (without further disturbance) for more than one year before development activities re-commence will be revegetated with an appropriate herbaceous seed mix to inhibit colonization of disturbed areas by invasive plants, followed by monitoring to insure that no large infestations of invasive plants occur. Potential examples of the latter category include IR Site 22, where remediation may either be closely coordinated with redevelopment or precede redevelopment by a year or more, and areas where soil is stockpiled for subsequent development uses.

c. *Biologist Approval.* Prior to ground-disturbing activities, the project proponent shall submit the name(s) and credentials of biologist(s) that will conduct the activities specified in the following measures to the Service. No project-related work for the proposed activity will begin until written approval that the biologist(s) is qualified to conduct the work has been received from the Service. The biologist(s) shall be given the authority to stop any work that may result in the take of listed species. If the biologist(s) exercises this authority, the Service shall be notified by telephone and electronic mail within one (1) working day. The Service-approved biologist will be the contact for any employee or contractor who might inadvertently kill or injure a Central California tiger salamander, California red-legged frog, or Alameda whipsnake or anyone who finds a dead, injured, or entrapped individual of these species. The Service-approved biologist shall possess a working cellular telephone whose number shall be provided to the Service.*

d. *Worker Environmental Awareness Program.* The project proponent will ensure a Worker Environmental Awareness Program (WEAP) is given to all construction personnel before the commencement of vegetation clearing or ground-disturbing activities, such as grading. A Service-approved biologist shall explain to construction workers how best to avoid the accidental take of Central California tiger salamanders and California red-legged frogs; information regarding Alameda whipsnakes will be included in the WEAP training for any project-related activities in the portions of the EBRPD PBC southeast of Bailey Road. This training session shall be required as a mandatory informational field meeting for contractors and all construction personnel. Interpretation will be provided for non-English speaking workers. The field meeting shall include information on species identification, life history, descriptions, and habitat requirements during various life stages. Emphasis shall be placed on the importance of the habitat and life stage requirements within the context of relevant AMMs. Handouts, illustrations, photographs, and maps showing areas where minimization and avoidance measures must be implemented shall be included as part of this education program. The WEAP shall increase the awareness of the contractors and construction workers about existing federal and state laws regarding endangered species, as well as increase their compliance with all local, state, and federal permit conditions. When new personnel are added to the project, they will receive the mandatory training before starting work. Proof of worker attendance will be kept on file by the City, EBRPD, or the County as applicable.*

e. *Listed Species Relocation Plan.* Prior to the initiation of any ground-disturbing activities, the project proponent will submit a relocation plan for listed species to the Service for approval. The plan will identify appropriate relocation methods and sites for any adult, juvenile, or larval Central California tiger salamander or California red-legged frog that may be observed during

the pre-construction surveys (described below) or during construction monitoring and that may need to be relocated.*

f. *Upland Work Window.* Ground-disturbing activities, including vegetation removal that results in soil disturbance (e.g., grubbing), site grading, utilities trenching, and outfall construction, will be performed between 30 April and October 15 (or the first measurable fall rain of 1cm) to minimize the potential for impacts on California red-legged frogs and Central California tiger salamanders moving aboveground. Ground-disturbing activities may occur outside this work window only with Service approval. The following types of work may continue during the wet season within established work areas enclosed in exclusion fencing (Conservation Measure 9(h) below) without the need for additional Service approval: fine grading, placement of fill, planting, paving, concrete pouring, and structural construction.

g. *Aquatic Work Window.* Activities that directly impact habitat that is ponded at the time of construction (i.e., ponds or pools within creeks) shall occur during the July–October period to avoid the period when California red-legged frog and Central California tiger salamander larvae are most likely to be present. In-water work will take place as late as feasible within this work window. For seasonal waterbodies that are dry (i.e., that have no surface water) when construction occurs, the Upland Work Window described in Conservation Measure 9(f) applies.

h. *Wildlife Exclusion Fencing.* Prior to pre-construction surveys, all construction areas will be enclosed with a minimum of 3-foot-high (or taller) silt fence or similar material, of which approximately 6 inches will be buried underground, that will remain in place during construction in order to prevent Central California tiger salamanders and California red-legged frogs from entering the construction area. Escape ramps, funnels, or other features that allow animals to exit the fenced construction area, but which will prohibit the entry of such animals, shall be provided in the exclusion fencing. Cover boards to provide cover for individuals will be spaced regularly along both sides of the exclusion fencing. The project proponent will provide a fencing plan detailing the locations and design/materials for this exclusion fencing to the Service for review prior to fence installation. A qualified biologist shall conduct a pre-construction survey of the fence installation area immediately prior to (i.e., the day of) the commencement of installation and shall monitor fence installation. Fencing will be maintained for the duration of construction for that activity/phase of work. For CERCLA remediation work at IR Site 22, the Navy (or City, in the case of an early transfer) will submit an exclusion fencing plan (in the Remedial Design or other appropriate CERCLA documentation) for Service review and approval prior to fence installation.

i. *Exclusion Fence Monitoring.* Within the EBRPD PBC Area, for the duration exclusion fencing is installed, a Service-approved biologist will walk exclusion fence lines each morning prior to 10 a.m. to monitor fencing integrity and to look for listed species stranded along the fence line (including under cover boards). If California red-legged frogs or Central California tiger salamanders are found stranded along the fence line, the Service-approved biologist will move the individual according to the approved relocation plan (Conservation Measure 9(e)). Within the EDC Area, a Service-approved biologist will walk exclusion fence lines at least one time per week to monitor fencing integrity and to look for listed species stranded along the fence line. If California red-legged frogs or Central California tiger salamanders are found stranded along the fence line within either the EDC or EBRPD PBC Areas, a Service-approved biologist will move the individual according to the approved relocation plan (Conservation Measure 9(e). Should a listed species be found along a fence line when a Service-approved biologist is not on site, a

Service-approved biologist will immediately be contacted to move the individual according to the approved relocation plan. Should listed species be found stranded along exclusion fencing, the Service will be contacted to determine whether additional monitoring or adjustments fencing design are needed.

j. *Exclusion Fencing Alternative.* In areas where exclusion fencing is not feasible (for instream work or work in very rocky areas), or where installation of such fencing may cause more damage than construction activities, as determined by a Service-approved biologist, the Service-approved biologist shall conduct a pre-construction survey (Conservation Measure 9(m) and will contact the Service to determine whether additional construction monitoring or other measures should be implemented.

k. *Preconstruction Surveys.* After exclusion fence is installed and immediately prior to construction, the following wildlife surveys will be performed by a Service-approved biologist within the fenced area according to the following protocols:

i. Any ponds or pools where work will take place shall be seined for Central California tiger salamander and California red-legged frog larvae within seven days prior to construction. Pools or ponds that will be impacted by construction will be pumped or drained during the seining so they are dewatered prior to earth-moving, fill, or construction in that feature. Any Central California tiger salamander or California red-legged frog larvae found during seining shall be salvaged and relocated by a Service-approved biologist according to the approved species relocation plan.*
ii. Within 48 hours before the onset of construction activities, a Service-approved biologist shall conduct one nighttime survey and one daytime survey of any wetlands, streams, ponds, riparian habitats, and areas within 200 feet of these features, within the construction area. During the preconstruction surveys, the biologist shall also include a pedestrian survey of the entire impact area to survey for California red-legged frogs and Central California tiger salamanders in vegetation, under debris, in culverts, or in other areas that could provide refugia for these species. If Central California tiger salamanders or California red-legged frogs of any life stage are found, they shall be moved according to the species relocation plan.*
iii. A Service-approved biologist will survey for Alameda whipsnakes immediately prior to (i.e., the same day as) the onset of any construction activities southeast of Bailey Road. If Alameda whipsnakes are found, they will be relocated according to the species relocation plan.

l. *Dewatering.* If it is necessary to divert water or conduct dewatering, the following measures will be implemented as applicable:

i. Equipment and machinery will be inspected and cleaned of non-native invasive vegetation prior to on-site use.
ii. Water diversion techniques will allow stream flows to gravity flow around or through the work site if feasible.
iii. If a work site must be dewatered by pumping, intakes will be screened with wire mesh screening not to exceed 3/32 inch. Pump intakes will be placed in perforated intake basins to allow water to be drawn into the pump while protecting aquatic organisms. Both the outside of the intake basin and the pump intake itself will be screened to ensure that aquatic organisms are not pulled into the pump.

iv. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction and will be discharged in a non-erosive manner (e.g., gravel or vegetated bars, on hay bales, etc.).
v. A Service-approved biologist will be on-site to monitor all dewatering activities and check the dewatered area for listed species. If listed species are found within the work area, the Service-approved biologist will relocate them according to the approved species relocation plan (Conservation Measure 9(e).
vi. No stream water will be allowed to contact uncured concrete or mortar. If any wet concrete, cement, slurry, or washings thereof inadvertently enter the stream, all construction activities shall immediately cease until the material is cleaned up and removed from the channel.*

m. *Remediation Fencing.* Wildlife exclusion fencing implemented during Navy remediation activities within the EDC Area may be maintained by the City after completion of remediation to prevent re-occupancy of these disturbed areas until development-related construction activities occur. The City will make this determination in coordination with the Service based on conditions at the time remediation is complete.

n. *Speed Limit.* Construction-related vehicles will observe a 20 mile-per-hour speed limit in all construction areas (this does not apply on City and County roads and State highways).

o. *Daily Work Window.* Work will be limited to daylight hours from 30 minutes after sunrise until 30 minutes before sunset unless the Service provides written approval, on a site-by-site or activity-by-activity basis, for performance of work during other times. The Service may require the implementation of additional avoidance measures (i.e. restrictions on lighting or on work during rain events) for night work.

p. *Pipe/Culvert Capping.* Central California tiger salamanders and California red-legged frogs are attracted to structures providing cavities such as pipes, and they may enter stored pipes and become trapped. Therefore, all construction pipes, culverts, or similar structures that are stored at ground level at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the Service-approved biologist and/or the construction monitor for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a Central California tiger salamander or California red-legged frog is discovered inside a pipe, a Service-approved biologist shall move the animal to a safe nearby location in accordance with the species relocation plan.*

q. *Trash Disposal.* To eliminate an attraction to the predators of the Central California tiger salamander, California red-legged frog, and Alameda whipsnake all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in solid, closed containers (trash cans) and removed from construction sites daily.*

r. *Take Notification.* Any contractor, employee, or agency personnel who inadvertently kills or injures a Central California tiger salamander, California red-legged frog, or Alameda whipsnake will immediately report the incident to a Service-approved biologist. The biologist will contact the Service to report the dead or injured animal via electronic mail and telephone within one working day.*

s. *Erosion Control.* Tightly woven fiber netting or similar material shall be used for erosion control or other purposes to ensure that individuals are not trapped. Plastic monofilament netting (erosion control matting) or similar material shall not be used because Central California tiger salamanders and California red-legged frogs may become entangled or trapped in it. This limitation will be communicated to the contractor through use of Special Provisions included in the bid solicitation package.*

t. *Entrapment Avoidance.* To prevent inadvertent entrapment of individuals during construction, the on-site biologist and/or construction foreman/manager shall ensure all excavated, steep-walled holes or trenches more than 1-foot deep, are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the Service-approved biologist and/or designated construction monitor. If at any time a trapped Central California tiger salamander or California red-legged frog is discovered, a Service-approved biologist shall move the animal in accordance with the relocation plan.*

u. *Construction Monitoring by Service-approved Biologist.* Within the EBRPD PBC Area, a Service-approved biologist will be present to monitor all work activities that may result in take of listed species. Within the EDC Area, a Service-approved biologist will be present during initial ground-disturbing activities (i.e., clearing and grubbing). If a listed species is observed within a work area, all work that could potentially harm the individual will be stopped until the individual moves out of the work area or a Service-approved biologist has moved the individual out of the work area in accordance with the species relocation plan. Within the EDC Area, once clearing and grubbing within a given area are completed, and the site has been completely surrounded by exclusion fencing, daily construction monitoring by a Service-approved biologist will no longer be necessary, but the biologist will conduct spot-checks once/week until grading is completed. The biologist will also be present during any other construction activities that, in the Service-approved biologist's opinion, have a high probability of resulting in take (e.g., during construction activities near breeding habitat or other sensitive habitats for these species).

v. *Construction Monitor.* Once initial ground disturbance and work in sensitive habitats within the EDC Area is complete, the project proponent will designate a construction monitor to monitor on-site compliance with all AMMs during ongoing project work. This individual must receive the WEAP training and be trained in the identification of California red-legged frog, Central California tiger salamander, and Alameda whipsnake. If a listed species or any animal that construction personnel believes may be one of these species, is encountered during construction, the following protocol shall be followed:

i. All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease.
ii. The foreman and a Service-approved biologist shall be immediately notified.
iii. A Service-approved biologist shall move the individual to a safe nearby location in accordance with the relocation plan (Conservation Measure 9(e).
iv. The Service-approved biologist shall notify the Service via telephone or electronic mail within one working day.
v. A written report (which may be via electronic mail) will be provided to the Service documenting the detection of the animal, the species involved, and the measures taken

(including relocation location and methods) to ensure that the animal was not harmed by construction will be provided to the Service within 5 working days of the relocation.*

10. *Outfalls.*
If outfalls to Mt. Diablo Creek (e.g., stormwater outfalls or outfalls from retention basins) are necessary, the plans/designs for the outfalls will be submitted to the Service. If the Service determines the outfall(s) will have an adverse effect on listed species that exceeds the effects already addressed in this Biological Opinion (i.e. changes in stream hydrology or additional take of listed species), the Service will notify the City, in writing that the outfalls are not covered by this Biological Opinion.

11. *Annual Reporting.*
The Executive Director will provide the Service with an Annual Report every year, no later than the first business day of March, until the EDC Area development is completed and the City fulfills the corresponding compensatory mitigation measures described in Conservation Measures 4 and 6. The Annual Report will address the status of Area Plan implementation, including EDC Area property transfers, EDC Area development, on-site and off-site compensatory mitigation (Conservation Measures 4, 6), habitat enhancements in the On-site Conservation Lands (Conservation Measure 5), and the riparian habitat enhancements (Conservation Measure 7) that the City is responsible for implementing under this Biological Opinion.[8] The Annual Report will include or describe:

a. The status of the EDC Area conveyances. The Annual report will include a figure showing the land the Navy transferred to the LRA through December 31 of the prior year.

b. An accounting of all EDC Area land the City developed, or authorized the development of, through December 31 of the prior year and the acreage and location of the corresponding compensatory mitigation. This will include:

vi. Conversion: The annual incremental and cumulative EDC Area converted to development.
vii. Mitigation (Preservation): The annual incremental acreage provided as compensatory mitigation in accordance with Conservation Measures 4 and 6, with a breakdown of the acreage preserved within the EBRPD PBC Area, City Conservation Lands, or off-site. The Annual Report will include evidence the City provided the corresponding Service-required long-term habitat management and monitoring funding.
viii. Mitigation (HCP/NCCP Payment or Bank Credits): A summary of the compensatory mitigation the City provided in accordance with Conservation Measure 6 by providing funds to the East Contra Costa County Habitat Conservancy or purchasing conservation bank credits, and evidence the funds were provided or credits purchased.
ix. Mitigation (Enhancements): The status of the habitat enhancements described in Conservation Measure 5 (habitat enhancements in the On-site Conservation Lands).
x. Net Acreage: The overall acreage of preserved habitat, a breakdown of the total acreage preserved by location, the mitigation available for offsetting future development (mitigation earned by preserving and implementing the long term management and monitoring in advance of EDC Area development), and the acreage that is still available

[8] The Long Term Management Plan for the On-site Conservation Lands (Conservation Measures 1(b), 4(c), HMMP (Conservation Measure 5), Riparian Habitat Enhancement and Management Plan (Conservation Measure 7), and any off-site habitat long term management plan (Conservation Measure 6(c)(iii)) likely will include reporting requirements. The Annual Report will not duplicate those reporting requirements.

for preservation in the EBRPD PBC Area, City Conservation Lands, or off-site mitigation area(s).

xi. The results of the LRA's site inspection described in Conservation Measure 3(c)(viii).

c. The estimated amount of development within the EDC Area the City anticipates will occur during the current calendar year and the corresponding mitigation the City will provide.

d. A summary of the City's compliance with the AMMs included in Conservation Measure 9 and Conservation Measures 10, 12, and 13. This may be provided in the form of a table with notes showing compliance with the AMMs and other conservation measures.

12. *Public Outreach Measures.*

a. Within the EDC Area, the City will distribute pamphlets to all residents explaining the importance of maintaining control of pets and avoiding sensitive areas in their proximity.

b. Within the EDC Area and the EBRPD PBC Area, the City and EBRPD will install signage adjacent to the Mt. Diablo Creek Corridor to provide information to residents and visitors about the presence of special-status species and discourage disturbance.

13. *Lighting Measures*

Within the EBRPD PBC Area, portions of the EDC Area that are within 300 feet of Mt. Diablo Creek or 300 feet of the EBRPD PBC Area, and within City Conservation Lands, the following measures will be implemented to minimize effects of lighting:

a. Lights will be directed downward (no uplighting).

b. Low-output fixtures will be used.

c. Overlighting will be avoided by lighting only key connecting routes, being selective as to which routes are lit, and lighting those routes to the lowest possible level for safety and security.

d. Glare shields, louvers, or other accessories to reduce unwanted light spill and direct view of light sources will be implemented.

e. Lighting controls will be linked to astronomical time clocks and/or photocells, with the possibility of dimming or switching off completely after a certain time.

14. *Conservation Measure Modifications*

Because of the extended time period over which conservation measures will be implemented, the Navy, Corps, City, or EBRPD may propose minor modifications to these conservation measures, along with a justification for the proposed modification to the Service for consideration. The Service may approve minor modifications to conservation measures if the Service determines that the modification will not result in adverse effects to listed species beyond those analyzed in this Biological Opinion.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the proposed project, the action area encompasses the 5,074-acre Reuse Area.

Analytical Framework for the Jeopardy Determination

In accordance with policy and regulation, the jeopardy analyses in this biological opinion rely on four components: (1) the *Status of the Species*, which evaluates the California red-legged frog, Central California tiger salamander, and Alameda whipsnake range-wide condition, the factors responsible for that condition, and their survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the Central California tiger salamander, California red-legged frog, and Alameda whipsnake in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of these species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the Central California tiger salamander, California red-legged frog, and Alameda whipsnake; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the Central California tiger salamander, California red-legged frog, and Alameda whipsnake.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the Central California tiger salamander, California red-legged frog, and Alameda whipsnake current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of these species in the wild.

The jeopardy analysis in this biological opinion places an emphasis on consideration of the range-wide survival and recovery needs of Central California tiger salamander, California red-legged frog, and Alameda whipsnake and the role of the action area in the survival and recovery of these species as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Status of the Species

Central California Tiger Salamander

For the most recent comprehensive assessment of the species' range-wide status, please refer to the draft recovery plan for the Central California tiger salamander (Service 2016) and the Central California tiger salamander 5-year Review (Service 2014). No change in the species' listing status was recommended in this 5-year review. Threats evaluated during that review and discussed in the final document have continued to act on the species since the 2014 5-year review was finalized. While there have been continued losses of Central California tiger salamander habitat, to date no project has proposed a level of effects for which the Service has issued a biological opinion of jeopardy for the species. The Service is in the process of finalizing a draft recovery plan for the species (Service 2016).

California Red-legged Frog

Listing Status: The California red-legged frog was listed as a threatened species on May 23, 1996 (Service 1996). Critical habitat was designated for this species on April 13, 2006 (Service 2006) and revisions to the critical habitat designation were published on March 17, 2010 (Service 2010). At this time, the Service recognized the taxonomic change from *Rana aurora draytonii* to *Rana draytonii* (Shaffer *et al.* 2010). A recovery plan was published for the California red-legged frog on September 12, 2002 (Service 2002).

Description: The California red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1 inches in length (Stebbins 2003). The abdomen and hind legs of adults are largely red, while the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Dorsal spots usually have light centers (Stebbins 2003), and dorsolateral folds are prominent on the back. Larvae (tadpoles) range from 0.6 to 3.1 inches in length, and the background color of the body is dark brown and yellow with darker spots (Storer 1925).

Distribution: The historic range of the California red-legged frog extended from the vicinity of Elk Creek in Mendocino County, California, along the coast inland to the vicinity of Redding in Shasta County, California, and southward to northwestern Baja California, Mexico (Fellers 2005; Jennings and Hayes 1985; Hayes and Krempels 1986). The species was historically documented in 46 counties but the taxa now remains in 238 streams or drainages within 23 counties, representing a loss of 70 percent of its former range (Service 2002). California red-legged frogs are still locally abundant within portions of the San Francisco Bay area and the Central California Coast. Isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse Ranges. The species is believed to be extirpated from the southern Transverse and Peninsular Ranges, but is still present in Baja California, Mexico (CDFW 2016).

Status and Natural History: California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and manmade ponds, and ephemeral drainages in valley bottoms and foothills up to 4,921 feet in elevation (Jennings and Hayes 1994, Bulger *et al.* 2003, Stebbins 2003). However, they also inhabit ephemeral creeks, drainages and ponds with minimal riparian and emergent vegetation. California red-legged frogs breed from November to April, although earlier breeding records have been reported in southern localities. Breeding generally occurs in still or slow-moving water often associated with emergent vegetation, such as cattails, tules, or overhanging willows (Storer 1925, Hayes and Jennings 1988). Female frogs deposit egg masses on emergent vegetation so that the egg mass floats on or near the surface of the water (Hayes and Miyamoto 1984).

Habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool through the summer including vegetated areas with coyote brush, California blackberry thickets, and root masses associated with willow and California bay trees (Fellers 2005). Sheltering habitat for California red-legged frogs potentially includes all aquatic, riparian, and upland areas within the range of the species and includes any landscape feature that provides cover, such as animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned sheds, or hay stacks may also be used. Incised stream channels with portions narrower and depths greater than 18 inches also may provide important summer sheltering habitat. Accessibility to sheltering habitat is essential for the

survival of California red-legged frogs within a watershed, and can be a factor limiting frog population numbers and survival.

California red-legged frogs do not have a distinct breeding migration (Fellers 2005). Adults are often associated with permanent bodies of water. Some individuals remain at breeding sites year-round, while others disperse to neighboring water features. Dispersal distances are typically less than 0.5-mile, with a few individuals moving up to 1-2 miles (Fellers 2005). Movements are typically along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers 2005).

In a study of California red-legged frog terrestrial activity in a mesic area of the Santa Cruz Mountains, Bulger *et al.* (2003) categorized terrestrial use as migratory and non-migratory. The latter occurred from one to several days and was associated with precipitation events. Migratory movements were characterized as the movement between aquatic sites and were most often associated with breeding activities. Bulger *et al.* (2003) reported that non-migrating frogs typically stayed within 200 feet of aquatic habitat 90 percent of the time and were most often associated with dense vegetative cover, *i.e.*, California blackberry, poison oak and coyote brush. Dispersing frogs in northern Santa Cruz County traveled distances from 0.25 mile to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003).

In a study of California red-legged frog terrestrial activity in a xeric environment in eastern Contra Costa County, Tatarian (2008) noted that 57 percent of frogs fitted with radio transmitters in the Round Valley study area stayed at their breeding pools, whereas 43 percent moved into adjacent upland habitat or to other aquatic sites. Her study reported a peak seasonal terrestrial movement occurring in the fall months associated with the first 0.2 inch of precipitation and tapering off into spring. Upland movement activities ranged from 3 to 233 feet, averaging 80 feet, and were associated with a variety of refugia including grass thatch, crevices, cow hoof prints, ground squirrel burrows at the base of trees or rocks, logs, and under man-made structures; others were associated with upland sites lacking refugia (Tatarian 2008). The majority of terrestrial movements lasted from 1 to 4 days; however, one adult female was reported to remain in upland habitat for 50 days (Tatarian 2008). Upland refugia closer to aquatic sites were used more often and were more commonly associated with areas exhibiting higher object cover, *e.g.*, woody debris, rocks, and vegetative cover. Subterranean cover was not significantly different between occupied upland habitat and non-occupied upland habitat.

California red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Egg masses containing 2,000 - 5,000 eggs are attached to vegetation below the surface and hatch after 6 - 14 days (Storer 1925, Jennings and Hayes 1994). In coastal lagoons, the most significant mortality factor in the pre-hatching stage is water salinity (Jennings *et al.* 1992). Eggs exposed to salinity levels greater than 4.5 parts per thousand resulted in 100 percent mortality (Jennings and Hayes 1990). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis 3.5 - 7 months following hatching and reach sexual maturity at 2 - 3 years of age (Storer 1925; Wright and Wright 1949; Jennings and Hayes 1985, 1990, 1994). Of the various life stages, larvae probably experience the highest mortality rates, with less than 1 percent of eggs laid reaching metamorphosis (Jennings *et al.* 1992). California red-legged frogs may live 8 to 10 years (Jennings *et al.* 1992). Populations can fluctuate from year to year; favorable conditions allow the species to have extremely high rates of reproduction and thus produce large numbers of dispersing

young and a concomitant increase in the number of occupied sites. In contrast, the animal may temporarily disappear from an area when conditions are stressful (*e.g.*, during periods of drought, disease, etc.).

The diet of California red-legged frogs is highly variable and changes with the life history stage. The diet of the larvae is not well studied, but is likely similar to that of other ranid frogs, feeding on algae, diatoms, and detritus by grazing on the surface of rocks and vegetation (Fellers 2005; Kupferberg 1996a, 1996b, 1997). Hayes and Tennant (1985) analyzed the diets of California red-legged frogs from Cañada de la Gaviota in Santa Barbara County during the winter of 1981 and found invertebrates (comprising 42 taxa) to be the most common prey item consumed; however, they speculated that this was opportunistic and varied based on prey availability. They ascertained that larger frogs consumed larger prey and were recorded to have preyed on Pacific chorus frogs, three-spined stickleback, and, to a limited extent, California mice, which were abundant at the study site (Hayes and Tennant 1985, Fellers 2005). Although larger vertebrate prey was consumed less frequently, it represented over half of the prey mass eaten by larger frogs suggesting that such prey may play an energetically important role in their diets (Hayes and Tennant 1985). Juvenile and subadult/adult frogs varied in their feeding activity periods; juveniles fed for longer periods throughout the day and night, while subadult/adults fed nocturnally (Hayes and Tennant 1985). Juveniles were significantly less successful at capturing prey and all life history stages exhibited poor prey discrimination, feeding on several inanimate objects that moved through their field of view (Hayes and Tennant 1985).

Recovery Plan: The recovery plan for the California red-legged frog identifies eight recovery units (Service 2002). The establishment of these recovery units is based on the determination that various regional areas of the species' range are essential to its survival and recovery. The status of the California red-legged frog was considered within the small scale recovery units as opposed to their overall range. These recovery units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of its range. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, core areas have been delineated and represent contiguous areas of moderate to high California red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations. Thus when combined with suitable dispersal habitat, will allow for the long term viability within existing populations. The management strategy identified within the Recovery Plan will allow for the recolonization of habitats within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of California red-legged frogs.

Threats: Habitat loss, non-native species introduction, and urban encroachment are the primary factors that have adversely affected the California red-legged frog throughout its range. Several researchers in central California have noted the decline and eventual local disappearance of California and northern red-legged frogs in systems supporting bullfrogs (Jennings and Hayes 1990, Twedt 1993), red swamp crayfish, signal crayfish, and several species of warm water fish including sunfish, goldfish, common carp, and mosquitofish (Moyle 1976, Barry 1992, Hunt 1993, Fisher and Schaffer 1996). This has been attributed to predation, competition, and reproduction interference. Twedt (1993) documented bullfrog predation of juvenile northern red-legged frogs, and suggested that bullfrogs could prey on subadult California red-legged frogs as well. Bullfrogs may also have a competitive advantage over California red-legged frogs. For instance, bullfrogs are larger and possess more generalized food habits (Bury and Whelan 1984). In addition, bullfrogs have an extended breeding season during which an individual female can produce as many as 20,000 eggs

(Emlen 1977). Furthermore, bullfrog larvae are unpalatable to predatory fish (Kruse and Francis 1977). Bullfrogs also interfere with California red-legged frog reproduction by eating adult male California red-legged frogs. Both California and northern red-legged frogs have been observed in amplexus (mounted on) with both male and female bullfrogs (Jennings and Hayes 1990, Jennings 1993, Twedt 1993). Thus bullfrogs are able to prey upon and out-compete California red-legged frogs, especially in sub-optimal habitat.

The urbanization of land within and adjacent to California red-legged frog habitat has also affected the threatened amphibian. These declines are attributed to channelization of riparian areas, enclosure of the channels by urban development that blocks dispersal, and the introduction of predatory fishes and bullfrogs. Diseases may also pose a significant threat, although the specific effects of disease on the California red-legged frog are not known. Pathogens are suspected of causing global amphibian declines (Davidson *et al.* 2003). Chytridiomycosis and ranaviruses are a potential threat because these diseases have been found to adversely affect other amphibians, including the listed species (Davidson *et al.* 2003; Lips *et al.* 2006). Mao *et al.* (1999 cited in Fellers 2005) reported northern red-legged frogs infected with an iridovirus, which was also presented in sympatric threespine sticklebacks in northwestern California. Non-native species, such as bullfrogs and non-native tiger salamanders that live within the range of the California red-legged frog have been identified as potential carriers of these diseases (Garner *et al.* 2006). Human activities can facilitate the spread of disease by encouraging the further introduction of non-native carriers and by acting as carriers themselves (*i.e.*, contaminated boots, waders or fishing equipment). Human activities can also introduce stress by other means, such as habitat fragmentation, that results in the listed species being more susceptible to the effects of disease.

Alameda Whipsnake

For the most recent comprehensive assessment of the species' range-wide status, please refer to the Alameda whipsnake 5-year Review (Service 2011). No change in the species' listing status was recommended in this 5-year review. Threats evaluated during that review and discussed in the final document have continued to act on the species since the 2011 5-year review was finalized, with loss of habitat being the most significant effect. While there have been continued losses of Alameda whipsnake habitat, to date no project has proposed a level of effects for which the Service has issued a biological opinion of jeopardy for the species. The Service is in the process of finalizing its most current 5-year review for the species.

Environmental Baseline

Location and Setting

The 5,074-acre Reuse Area is located approximately 3.5 miles south of Suisun Bay in the eastern portion of the City of Concord. The Reuse Area is characterized by valley floor and rolling hills with elevations ranging from about 100 feet above sea level to 1,000 feet above sea level along the ridge of the Los Medanos Hills. The Reuse Area is bound on the northeast by the Los Medanos Hills, on the southwest by developed areas of the City of Concord, on the east by rangelands, and on the west by Port Chicago Highway. A site proposed for future development (on the approximately 600-acre Southwest Hills/Faria property) lies on the northeast border of the Reuse Area. The 6,419-acre Tidal Area of the former CNWS station lies to the north of the Reuse Area between SR 4 and Suisun Bay. The Tidal Area was transferred to the United States Army in 2008 and it is now the Military Ocean Terminal Concord (MOTCO) operated by the Army.

The Reuse Area lies adjacent to the inventory area of the ECCC HCP/NCCP with the northeast border of the Reuse area forming the northwestern border of the ECCC HCP/NCCP Inventory Area (Inventory Area). In addition to providing permits for urban development and rural infrastructure projects within the inventory area, the ECC HCP/NCCP prescribes a regional conservation strategy that includes the development and acquisition of a preserve system. A completed preserve system will encompass 23,800 to 30,300 acres of land in eastern Contra Costa County. One goal of the ECCC HCP/NCCP preserve system is to link habitat in the Reuse Area with habitat in the Black Diamond Mines Regional Park to the southeast and to extend this linkage to create a corridor of protected lands reaching to Cowell Ranch and Los Vaqueros Watershed in the southeastern corner of the county. Currently, the ECCC HCP/NCCP preserve system includes over 12,000 acres of protected lands, many of which contribute to this goal, including the approximately 450-acre Land Waste (or Hess) property located along Kirker Pass Road approximately 1,500 feet to the east of the southeastern border of the Reuse Area. Future ECCC HCP/NCCP efforts will work towards preserving additional land that will link ECCC HCP/NCCP preserve properties to the Reuse Area and to create a corridor of preserved lands extending to Black Diamond Mines and further to the east and south.

Historical Uses

The Reuse Area is a former munitions storage and shipping facility that was created in the 1940's and recommended for closure by the Base Realignment and Closure Commission in 2005. During active military use, operational facilities included high-explosive and gun magazines or storage bunkers, military barracks, and a weapons laboratory. The Navy also constructed a rail system and two air runways on the site. Networks of roads, railroads, and utilities link the buildings across the site. The highest concentration of former Navy administration buildings is located north of SR 4. Navy facilities in the remainder of Reuse Area include primarily storage bunkers, railroad tracks, and roads, many of which are widely spaced and interspersed with grassland and other natural habitats. The main concentration of bunkers (known as Bunker City) is located between Willow Pass Road and Bailey Road to the west of Mt. Diablo Creek. An abandoned concrete runway (the old airfield) is located in the area bordered by Willow Pass Road and Olivera Road. The Inland Area of the CNWS has been inactive since 1999 and the Reuse Area has been exposed to relatively little direct human activity in recent decades. Extensive fencing exists along the perimeter of the site and the Reuse Area is not currently accessible to the public.

The Navy has been performing CERCLA remediation and restoration activities in the Reuse Area since 1982 when it performed an initial assessment to identify areas of contamination. The Navy completed a site investigation in 1993 and in 1994, the Navy entered into an agreement with the U.S. and California Environmental Protection Agencies that identified areas of contamination and established goals, responsibilities, and schedules for clean-up of the sites. CERCLA remediation work locations generally correspond with Parcels for Later Transfer in Figure 4.

Habitats

Major habitat types within the Reuse Area include California annual grassland; coyote brush scrub/coastal sage scrub; oak woodland/savannah; orchards and plantations; seasonal and perennial wetlands; creeks, drainages, canals, and ponds; and riparian woodland (see Table 5 in the *Description of the Proposed Action* section above for acreages and Figure 2 for locations).

The vast majority of the Reuse Area supports California annual grassland with wetland and riparian habitats occurring as narrow bands or discrete features. The annual grasslands are dominated by non-native annuals, including wild oats, ripgut grass, and Italian ryegrass. However, remnant stands of native perennial grasslands remain, in particular on steeper slopes of the Los Medanos Hills. Yellow star thistle and other invasive weeds comprise a significant portion of the vegetation in many locations and recent observations indicate that noxious weed populations in the Reuse Area are expanding.

Mt. Diablo Creek, which crosses the site from south to north, is the major hydrologic feature of the site, receiving runoff from over 75 percent of the Reuse Area. The greatest flow levels in this creek occur during heavy rainstorms in the winter months, and the creek dries in many reaches during the late spring, summer, and fall months. Flows in Willow Pass Creek, which enters the Reuse Area near the SR 4 overpass of Willow Pass Road, are flashy with flows corresponding with high rainfall amounts and then quickly diminishing. However, spring-fed perennial pools are present within Willow Pass Creek.

Woody riparian vegetation occurs along Mt. Diablo Creek, along Willow Pass Creek and its alluvial fan, and in two areas located south of the airfield. Riparian vegetation along Mt. Diablo Creek is dominated by a variety of trees and shrubs, including red willow, arroyo willow, Fremont cottonwood, California buckeye, California black walnut, and Oregon ash. Due to a heavy overstory of trees and shrubs along most of its length, and variable water flows within the creek, very little wetland vegetation grows below the top-of-bank of the creek. Riparian vegetation associated with Willow Pass Creek is largely comprised of a narrow, poorly developed riparian corridor supporting small trees and shrubs located in and directly adjacent to the deeply incised banks of the stream.

The majority of oak woodland in the Reuse Area occurs in the form of small, clustered pockets of trees occurring on more mesic sites within the larger oak savannah/grassland. Typical oak species on the site are coast live oak, blue oak, and valley oak. Scattered California buckeye trees represent a subdominant species of the oak woodlands in some of the deeper and more protected drainages within the Los Medanos Hills. The valley oak, coast live oak, and buckeye form closed canopies within the oak woodland communities in some of the ephemeral drainages on the site, with forbs such as miner's lettuce, common chickweed, and shepherd's purse forming the understory.

Shrub-dominated plant communities occur at two sites in the Reuse Area. A stand of coastal sage scrub is located on the northwest-facing slope within Rattlesnake Canyon in the southeast corner of the site. The second is a mature stand of coyote brush located near the old airfield.

The Reuse Area also contains remnant orchards and plantations planted prior to its use for military purposes. During the late 1800s, eucalyptus groves were planted by homesteaders. Later, the University of California Cooperative Extension planted test groves of eucalyptus to evaluate the cost of eucalyptus energy production. In addition, the U.S. Forest Service maintained several plantations consisting of test plantings of pine and blue gum eucalyptus. Each plantation contains several hundred trees; however the plots are no longer maintained. Abandoned walnut orchards are also present north and south of Bunker City.

The Reuse Area includes ten named ponds (Figure 8) as well as a number of smaller unnamed features that support seasonal ponding. Most of the named ponds also dry seasonally. However, Cistern Pond and, in most years, Upper Indian Springs Pond are perennial. The golf course also includes a number of perennial ponds that are supported with supplemental water.

Freshwater marsh is present at the Cistern Pond, portions of the Contra Costa Canal, two areas near the old airfield, and in a linear ditch that extends along the site boundary just south of the old airfield. The freshwater marsh near the old airfield is associated with a system that includes a perennial spring and permanent water that drains off-site to the west. Although the floristic composition of these freshwater marshes is variable, typical dominant species include bulrush, cattails, sedges, and Baltic rush.

Seasonal wetlands in the Reuse Area include natural channels, two wetland areas near the old airfield, wetlands within and adjacent to Willow Pass Creek, within portions of man-made ditches near Bunker City, along the railroad line in the northwest section of the site near Mt. Diablo Creek, around the perimeter of seasonal stock ponds, and in numerous shallow depressions within the annual grasslands. The majority of seasonal wetlands on the site support primarily marginal wetland grass species such as Italian ryegrass and Mediterranean barley, as well as bristly ox-tongue and bird's-foot trefoil. The largest seasonal wetlands on the site consist of two patches near the old airfield, an area that has been highly disturbed by the diversion of Mt. Diablo Creek at least a century ago. These seasonal wetlands are supported by a combination of rainfall and a deeper seep that maintains high levels of soil moisture well into the summer.

Portions of the Contra Costa Canal and the Clayton Canal extend generally in a north-south direction bisecting the Reuse Area. Both canals are part of the Bureau of Reclamation's California Central Valley Project. The Contra Costa Canal enters the northwest section of the site and exits in the southwest corner, crossing Willow Pass Road. The north end of the Clayton Canal begins on the site as an aqueduct connected to the east side of the Contra Costa Canal in the northeast portion of the site, extending south where it exits the west-central portion of the site. The Clayton Canal is currently inactive, having not been used to convey water for more than 20 years, while the Contra Costa Canal only conveys water part of the year.

Developed areas include roadways, rail lines, parking lots, runways, railroad yards, and a wide variety of structures, including buildings, bridges, and bunkers. The Magazine Area, also referred to as Bunker City, largely corresponds with IR-site 22. This area contains the majority of the formerly used ammunition storage bunkers and includes associated rail line, loading docks, asphalt roadways, and concrete aprons. The tops of these bunkers are covered with soil and a plant community similar in structure and composition to the adjacent grasslands, and as such, the tops of the bunker structures are considered California annual grassland.

Central California Tiger Salamander

The occurrence of Central California tiger salamanders within the Reuse Area has been documented during various surveys including: natural resource and wildlife surveys of the Tidal and Inland Areas of the CNWS conducted from 1981-1982 (Jones and Stokes 1982); surveys for amphibians and reptiles conducted from 1998-1999 (Downard et al. 1999); surveys conducted for Central California tiger salamander and California red-legged frog in spring of 2005 and 2006 (Smallwood and Morrison 2007); and larval surveys for Central California tiger salamander conducted in 2011 (H.T. Harvey & Associates 2011). Based on these surveys, Central California tiger salamander breeding has been detected at the following ponds within the Reuse Area (see Figure 8 for pond locations): Upper and Lower Cistern Ponds; Rock Quarry Pond; 5AT-1 Pond; 5AT-2 Pond; Rattlesnake Canyon Pond; Lower Indian Springs Pond; and North and south Hilltop Ponds. Central California tiger salamanders have also been detected in ditches south of Bailey Road, in a pool alongside a railway track just north of Bailey Road, and within a seasonal pool in a ditch within Bunker City. Central

California tiger salamander eggs have been observed within the Clayton Canal near the IA-100 sites in an area which regularly pools water during the rainy season. Because the canal is inactive and does not actively flow, it potentially provides suitable breeding habitat.

In addition, per the 2012 biological opinion for the Navy's hazardous materials investigation and remediation activities in the Reuse Area, the Navy has been conducting trapping for Central California tiger salamanders at various CERCLA remediation sites (trapping locations correspond with Parcels for Later Transfer in Figure 4). Central California tiger salamanders have been found at the following locations: Eagle's Nest, Site 24A, IA-100 sites, Rocket Practice Area, and Bermed Area. Based on Navy trapping efforts and survey data, the Eagle's Nest area within the EBPRD PBC Area appears to support high concentrations of Central California tiger salamanders. Out of a total of 652 individual Central California tiger salamanders trapped across all Navy trapping locations between October 2010 and March 2016, 605 of these individuals were trapped at Eagle's Nest (Condor Country 2016). Larval surveys also found the highest concentrations of Central California tiger salamander larvae in the Hilltop Ponds near the Eagles Nest trapping site, with the next highest concentrations found in breeding ponds south of Bailey Road (Smallwood and Morrison 2007). In a study conducted on an approximately 67-acre study site located just outside the eastern border of the Reuse Area North of Bailey Road, trapping for Central California tiger salamanders conducted between October 2000 and April 2005 trapped between 90 and 417 Central California tiger salamanders annually (Orloff 2011). The study concluded that the Hilltop Ponds in the Reuse Area were the most likely breeding source for the salamanders trapped during the study despite being located over 800 meters away. Given the high numbers of Central California tiger salamanders trapped in uplands surrounding the Hilltop Ponds(both within and outside of the Reuse Area), it appears that these ponds provide important breeding habitat that supports a robust population of Central California tiger salamanders.

In contrast, detections of Central California tiger salamanders within the Reuse Area west of Mt. Diablo Creek have been scarce with only one documented occurrence (in 2006) from a pool in the Bunker City area (CNDDB 2016). As described above, a number of survey efforts have been undertaken, dating back to 1981, to determine the locations of Central California tiger salamanders in portions of the Reuse Area (Jones and Stokes 1982, Downard et al. 1999, Smallwood and Morrison 2007, H.T. Harvey & Associates 2011, and Condor Country 2016), yet except for the 2006 record from Bunker City, Central California tiger salamanders have not been recorded in the northwest portion of the Reuse Area (i.e. within the EDC Area). These survey efforts consisted primarily of larval aquatic surveys, although Smallwood and Morrison (2007) conducted upland trapping surveys in selected areas and Condor Country conducted upland trapping in multiple years (Condor Country 2016) to remove Central California tiger salamanders from CERCLA remediation sites (trapping locations correspond with Parcels for Later Transfer in Figure 4). Despite these survey efforts, the closest records of Central California tiger salamanders to Willow Pass Road are 1.38 miles southeast of Willow Pass Road on the east side of Mt. Diablo Creek and 1.40 miles south of Willow Pass Road on the west side of Mt. Diablo Creek. The reasons for the lack of detections in this area are not clear although the high banks of Mt. Diablo Creek and the railroad tracks that parallel the creek could act as impediments to dispersal of Central California tiger salamanders into this area. There are no stock ponds in this area; however, a small number of seasonal pools (typically located in shallow depressions or in drainage ditches along roads and rail lines) appear to hold water for an adequate period of time to support Central California tiger salamander breeding. The perennial spring near the old airfield also provides potential aquatic breeding habitat.

Although the lack of detections suggests that the habitat for Central California tiger salamanders in this portion of the Reuse Area is of a lower quality, it does not necessarily indicate that Central California tiger salamanders are absent from this area. Multiple studies of Central California tiger salamanders have shown large fluctuations in breeding between years (Bobzien and DiDonato 2007, Service 2016) and Central California salamanders can spend multiple years residing in upland habitat without emerging from underground refugia to migrate to aquatic habitat to breed (Orloff 2011). Alvarez surveyed 90 ponds in Contra Costa County for nine years and reported that only one pond had breeding observed every year, and the most breeding observed in a single year was in 44 ponds (Service 2016). The average interval between California tiger salamanders breeding at a pond was 3 years (Service 2016). This pattern of sporadic breeding and emergence from underground refugia makes the detection of Central California tiger salamanders that may be present in an area difficult.

As a whole, the Reuse Area provides a large area of contiguous habitat where a mosaic of upland and aquatic habitat provides breeding, dispersal, foraging, and sheltering habitat for the Central California tiger salamander. Portions of the Reuse Area support high densities of Central California tiger salamanders and provide important breeding habitat for Central California tiger salamanders in the Reuse Area and surrounding areas. The Reuse Area is also contiguous with other natural lands that provide upland and aquatic breeding habitat for Central California tiger salamanders and that are known to support Central California tiger salamander (CDFW 2016). While some of these lands are proposed for future development, others have been preserved. As such, the Reuse Area plays a role in supporting Central California tiger salamander populations and dispersal in the Reuse Area and vicinity.

Current threats to Central California tiger salamanders in the Reuse Area include: habitat modification and degradation and harm and harassment from remediation and maintenance activities; competition and predation by introduced species and/or feral animals; and injury or mortality from vehicle strikes. Existing rail lines as well as the Contra Costa Canal may act as barriers to Central California tiger salamander movement in the Reuse Area and could limit or prevent access to breeding habitat (Bartoszek and Greenwald 2009). In addition, development of habitat adjacent to the Reuse Area could result in adverse effects to the population of Central California tiger salamander that use the Hilltop Ponds for breeding.

California Red-legged frog

The proposed project is located in the East San Francisco Bay Core Area of the East San Francisco Bay Recovery Unit for the California red-legged frog (Service 2002). This Recovery Unit extends from the northernmost portion of Contra Costa County including a portion of San Joaquin County, south to Santa Clara County, and includes the eastern portion of San Mateo County, and all of San Francisco County. Within this Recovery Unit, California red-legged frogs appear to have been largely eliminated from the western lowland areas near urbanization. However, isolated populations occur in the East Bay foothills (between Interstate 580 and Interstate 680) and the species is abundant in several areas in eastern Alameda and Contra Costa counties. This Recovery Unit is essential to the survival and recovery of California red-legged frog, as it contains the largest number of occupied drainages in the northern portion of the species' range.

During the surveys described above in the baseline for Central California tiger salamander, California red-legged frogs were detected at the following ponds in the Reuse Area: Upper and Lower Cistern Pond, Upper and Lower Indian Springs Ponds, 5AT-1 Pond, Rattlesnake Canyon Pond, and 5AT-2 Pond. California red-legged frogs were also detected along dirt roads between

Cistern Pond and Indian Springs during evening spotlight surveys and in grassland habitat west of Mt. Diablo Creek. During Central California tiger salamander trapping conducted by the Navy at CERCLA sites, one California red-legged frog was trapped at the Rocket Practice Area site and one California red-legged frog was found along trapline fencing at the Eagles Nest site. California red-legged frogs have also been detected in several locations along Mt. Diablo Creek. Although California red-legged frog breeding has not been documented in Mt. Diablo Creek, the creek provides aquatic non-breeding habitat including some pools that last into the summer months and likely provides important habitat for California red-legged frogs in the Reuse Area.

Based on survey results, Cistern Pond appears to support the most robust population of California red-legged frogs in the Reuse Area. However, various surveys noted that vegetation encroachment at Cistern pond was leading to less open water and potentially reducing the quality of habitat for California red-legged frogs. In fall of 2016, the Navy conducted a pond enhancement project at Cistern Pond; dense vegetation was removed and a portion of the pond was deepened. During the pond enhancement work, more than 250 California red-legged frogs were detected and moved out of the work area, and then allowed to return once work was completed. The pond enhancement resulted in increased open water habitat for California red-legged frogs at Cistern Pond.

Surveys conducted in 2005 and 2006 did not detect California red-legged frogs in Rattlesnake Pond or Indian Springs Ponds and noted these ponds appeared to have dried substantially since the surveys conducted in 1999 (Smallwood and Morrison 2007). Work to increase ponding duration may be needed in order for these ponds to continue to provide suitable breeding habitat for California red-legged frog. Although freshwater marsh in the old runway area and golf course ponds could potentially provide habitat for California red-legged frogs, no California red-legged frogs have been observed in these locations and non-native predatory species (i.e. bullfrogs, crayfish and mosquitofish) are known to occur in these features, diminishing their value to California red-legged frogs.

Various surveys have documented the presence of bullfrogs in the Reuse Area. Studies conducted in the 1980s expressed concern with the presence of bullfrogs at Cistern Pond that could negatively impact the California red-legged frog population. However, surveys conducted in 1999 detected only a single bullfrog within the pond and only one bullfrog was found (and subsequently dispatched) during the Cistern Pond enhancement project. Bullfrogs have been detected in several locations along Diablo Creek. Although the presence of bullfrogs can diminish the quality of habitat for California red-legged frogs, the California red-legged frog population in the Reuse Area does not appear to have been substantially affected by the presence of bullfrogs at this time.

As a whole, the Reuse Area provides a large area of contiguous habitat where a mosaic of upland and aquatic habitat provides breeding, dispersal, foraging, and sheltering habitat for the California red-legged frog. The Reuse Area is also contiguous with other natural lands that provide upland and aquatic breeding habitat for California red-legged frog. While some of these lands are proposed for future development, others have been preserved. As such, the Reuse Area also plays a role in supporting larger California red-legged frog dispersal movements.

Current threats to California red-legged frogs in the Reuse Area include: habitat modification and degradation and harm and harassment from remediation and maintenance activities; competition and predation by introduced species and/or feral animals; and injury or mortality from vehicle strikes.

Alameda Whipsnake

The Reuse Area is located approximately 2 miles to the northeast of the Mt Diablo-Black Hills Recovery Unit and Critical Habitat Unit for Alameda whipsnake. The Mt. Diablo-Black Hills Critical Habitat Unit is thought to provide some of the highest quality and largest contiguous block of habitat for Alameda whipsnake and to support one of the most robust populations (Service 2006a).

There are no documented occurrences of Alameda whipsnake within the Reuse Area. However, Alameda whipsnakes have been documented less than 3 miles to the south and to the southeast of the Reuse Area (CDFW 2016). Within the Reuse Area south of Bailey Road, small patches of scrub habitat in upper Rattlesnake Canyon and grassland with rock outcrops provide potential habitat for Alameda whipsnake. Although the small patches of scrub habitat in the Reuse Area may not be adequate to support a population of Alameda whipsnake, extensive stands of scrub habitat with rock outcrops adequate to support Alameda whipsnake populations are located close enough to the Reuse Area to result in habitat within the Reuse Area being used by Alameda whipsnakes during dispersal. Alameda whipsnake habitat in the Reuse Area is likely limited to the portion of the Reuse Area south of Bailey Road.

Effects of the Action

California Red-Legged Frog and Central California Tiger Salamander

The proposed project will result in temporary and permanent effects to habitat for Central California tiger salamander and California red-legged frog. This could result in individuals being directly and/or indirectly affected. The proposed project could (1) reduce and fragment the amount of habitat available to Central California tiger salamander and California red-legged frog in the area; (2) result in the injury and death of individual Central California tiger salamanders and California red-legged frogs; and (3) result in non-lethal harm and harassment of surviving individuals.

Habitat Loss and Fragmentation

Implementation of the Area Plan will result in development or redevelopment of 2,369 acres of the 5,074-acre Reuse Area that lie outside the EBRPD PBC Area (2,516 acres) and the Mt. Diablo Creek Riparian Corridor (189 acres). Of these 2,369 acres, 562 acres are already developed including: 76 acres in the County PBC Area north of State Route 4; 85 acres within Olivera Field and the portion of the existing golf course to be transferred from the Navy to the City; 68 acres within the City-owned portion of the golf course; 24 acres within the BART parcel; 8 acres within right-of-ways where road improvements will occur; 16 acres within the EDC Area along Kinne Boulevard, between the golf course and County PBC; and 285 acres within the EDC Area south of State Route 4 developed with buildings, roads, parking areas, railroad tracks and bunkers. The remaining 1,807 acres of undeveloped habitat will be converted to developed uses. Within the EBRPD PBC Area, development of the Concord Hills Regional Park will result in the development or redevelopment of an additional 85 acres, of which 16.5 acres is habitat for Central California tiger salamander and California red-legged frog. In total, this will result in approximately 1,824 acres of habitat for Central California tiger salamander and California red-legged frog being permanently converted to developed uses. This loss of habitat will occur in phases over a period of approximately 35 years.

The proposed project will extend City of Concord residential and commercial development to the northeast, significantly reducing the amount of upland habitat for Central California tiger salamander

and California red-legged frog between Kirker Pass Road and State Route 4 and reducing and narrowing the amount of habitat that lies between the City of Concord and existing and future development within the City of Pittsburg. Proposed development within the EDC Area will result in the loss of seasonal pools that could potentially provide aquatic breeding habitat for Central California tiger salamander in years with adequate rainfall, although these pools may provide only low quality breeding habitat. Only one seasonal pool (within the Bunker City area) with documented presence of Central California tiger salamander will be lost to development. The proposed development will not result in the loss of any documented breeding habitat for California red-legged frog.

The loss of over 1,800 acres of habitat and individuals inhabiting this area (see *Mortality, Injury, Harm and Harassment* section below) could result in declines in local populations of Central California tiger salamander and California red-legged frog. Smaller populations, particularly if they are isolated from larger populations, are more susceptible to extirpation from random demographic, environmental, and/or genetic events (Shaffer 1987, Lande 1988, Primack 1993). In addition, the quality of habitat remaining within the EBRPD PBC Area may decline as smaller habitat blocks, with a higher the edge to interior ratio, tend to be more vulnerable to outside influences such as those associated with residential development and human presence (Primack 1993) (see *Indirect Effects* section below for a discussion of effects to remaining habitat).

To reduce the effects of habitat loss on Central California tiger salamander and California red-legged frog, proposed EDC development (with the exception of the water tank area) is located in the portion of the Reuse Area that appears to provide the lowest quality habitat for Central California tiger salamander and California red-legged frog and that has the fewest documented occurrences of Central California tiger salamander and California red-legged frog. In contrast, habitat within the EBRPD PBC Area, which will be preserved and managed for listed species in order to partially offset project-related impacts (while also allowing for recreational use), represents the highest quality breeding and upland habitat for Central California tiger salamander and California red-legged frog in the Reuse Area, and with the exception of the seasonal pool in Bunker City, includes all documented breeding habitat for Central California tiger salamander and all documented breeding habitat for California red-legged frog within the Reuse Area.

In addition, work will be conducted to improve the quality of habitat within the EBRPD PBC Area. The implementation of a Service-approved habitat mitigation plan (see Conservation Measure 5 in the *Description of the Proposed Action* section above) will result in the creation of additional breeding ponds for Central California tiger salamander and California red-legged frog and the enhancement/restoration of existing ponds. The removal of rail lines (see Conservation Measure 8f in the *Description of the Proposed Action* section above) will remove potential barriers to Central California tiger salamander movement between breeding ponds and between upland habitat and breeding ponds. These enhancement/restoration activities will occur gradually and will be phased in accordance with phases of development.

The EBRPD PBC Area will be preserved and managed according to a Service-approved long-term management plan (see Conservation Measure 4c in the *Description of the Proposed Action* section above) that will balance recreational uses with preservation of habitat for Central California tiger salamander and California red-legged frog (see the *Indirect Effects* section below for a discussion of the effects of recreation in the EBRPD PBC Area). Not only does the EBRPD PBC Area itself represent a sizeable block of habitat for Central California tiger salamanders and California red-legged frogs, it is contiguous with high-priority conservation areas identified in the ECCC HCP/NCCP and will

preserve habitat that will support the formation of habitat linkages described in the ECCC HCP/NCCP.

The City will also preserve compensatory habitat off-site but within the ECCC HCP/NCCP Inventory Area or the remainder of the Mt. Diablo Creek watershed (see Conservation Measure 6 in the *Description of the Proposed Action* section above) to help offset project impacts. This habitat will be preserved in phases corresponding with phases of development over the next 35 years. Ultimately, up to approximately 1,235 acres of off-site habitat will be preserved when development of the Reuse Area is completed. This compensatory habitat is intended to minimize the effects of the proposed project's anticipated effects to listed species resulting from the permanent loss and degradation of habitat. The off-site compensatory lands will provide suitable habitat for breeding, feeding, or sheltering commensurate with or better than habitat lost as a result of the proposed project. It is anticipated that these lands will complement the ECCC HCP/NCCP preserve system and result in large contiguous blocks of preserved land that will be managed to benefit listed species in perpetuity will contribute to regional recovery efforts for these species.

Temporary Habitat Disturbance

Activities that will result in limited temporary disturbance of habitat (outside of the Mt. Diablo Riparian Corridor which is discussed separately below) include: installation of water tanks and an associated pipeline (8 acres of temporary impact); pre-engineering activities (<10 acres on lands that will be subsequently be converted to developed uses); habitat enhancement and creation within the EBRPD PBC area (up to 8 acres); habitat maintenance activities as prescribed in the Service-approved Long Term Management Plan for the EBRPD PBC Area (acreage of habitat disturbance will be minimal but will include periodic maintenance of ponds and pond banks and berms); and restoration of existing facilities within the EBPRD PBC area (acreage of habitat disturbance is expected to be minimal as restoration work will occur mainly within the footprint of developed facilities). The implementation of CERCLA remediation activities within IR Site 22 may also result in temporary impacts to up to 531 acres if remediation activities are not timed to happen in conjunction with redevelopment construction; however, this area will ultimately be converted to development and as such, for the purposed of this effects analysis is considered to be permanently impacted. Construction of wetlands near the old airfield may also result in up to 20 acres of temporary habitat disturbance. However, since this area will be completely surrounded by EDC development, it will no longer provide suitable habitat for Central California tiger or California red-legged frog and therefore is also included in the acreage of habitat permanently developed.

Temporary disturbance or loss of habitat could result in injury or mortality to any Central California tiger salamanders or California red-legged frogs present (see *Mortality, Injury, Harm and Harassment* section below*)* and cause individual Central California tiger salamanders and California red-legged frogs in and near construction activities to vacate the area. Displaced California red-legged frogs and California tiger salamanders will be subject to increased potential for predation, desiccation, and their ability to find required resources such as food and shelter will be reduced as they move. Although habitat enhancement and maintenance activities will cause temporary habitat disturbance that may adversely affect Central California tiger salamander and California red-legged frog, these activities will ultimately be beneficial by improving and maintaining habitat for these species.

Riparian Corridor

Approximately 2 miles of the Mt. Diablo Riparian Corridor (from State Route 4 to the southern extent of the tournament sports facility/park) will ultimately be bordered on either side by EDC Area development. As a result, the approximately 69 acres of creek and riparian habitat within this segment of the riparian corridor will be isolated from adjacent upland habitat and Central California tiger salamander and California red-legged frog dispersal to this area will be impeded. In addition, individuals that inhabit this creek segment may have lower survivorship as a result of adverse effects associated with being in close proximity to and surrounded by urban development (see *Indirect Effects* section below). Because this 69-acre portion of the Mt. Diablo Riparian Corridor will likely cease to function as suitable habitat for Central California tiger salamanders and California red-legged frogs, this 69 acres will be permanently affected following completion of adjacent development.

In addition, a number of elements of the proposed project will result in temporary effects to habitat within the Mt. Diablo Riparian Corridor. These effects will primarily be associated with the removal and construction of stream crossings and with the implementation of a Riparian Enhancement and Management Plan (see Conservation Measure 7 in the *Description of the Proposed Action* section above). Temporary disturbance of habitat within the creek channel itself will result from installation of three boulder step-pool grade control structures and one energy dissipation structure just downstream of Bailey Road; the installation of 20 buried grade control structures composed of ungrouted boulders, logs, and root wads; and grading to increase sinuosity in the channel and create secondary channels. It is anticipated that this work will result in disturbance of less than 1 acre of creek channel. An additional 25 acres of temporary disturbance within the riparian corridor will result from the removal of 14 existing culverts and the construction of nine new crossings.

Temporary disturbance of habitat within the Mt. Diablo Riparian Corridor but outside of the creek channel will result from grading to stabilize eroding banks, facilitate flood conveyance, and restore/enhance habitat. A maximum of 112 acres within the riparian corridor will be temporarily disturbed by these activities. Grading designs will avoid impacts to native riparian habitat where feasible, and of the 28.6 acres of woody riparian vegetation within the riparian corridor, it is anticipated that only approximately 4 acres will be affected by grading activities.

Despite the disturbance of habitat within the Mt. Diablo Riparian Corridor, it is anticipated that, overall, the implementation of the Riparian Enhancement and Management Plan and the removal and construction of new stream crossings will ultimately result in better quality habitat within the 120 acres of the riparian corridor that are not bordered on either side by the EDC Area. In-channel work and the removal and replacement of stream crossings will improve habitat conditions by reducing channel erosion, removing hardscape, and creating tie-ins to new secondary channels. Most existing stream crossings are culverts with concrete or other artificial materials forming the channel bottom and banks. These crossings will be replaced with free-span bridges that will preserve a natural channel bottom; concrete box culverts will be replaced with an earthen channel design. The net effect of reducing the number of crossings and replacing existing crossings with free-span and natural bottomed creek crossings will result in improved quality of stream habitat and better connectivity for wildlife movement within the stream channel. Increased complexity created by grade control structures will improve structural heterogeneity and will provide seasonally inundated pools that retain water longer. Greater habitat complexity will provide more varied foraging opportunities and refugia habitat for California red-legged frogs. The creation of pools will increase the amount of aquatic habitat available later in the dry season and potentially provide pools more conducive to California red-legged frog breeding.

Work outside the stream channel will widen the riparian corridor and create a greater diversity of habitats. Following grading activities, the floodplains created by laying back steep eroding slopes will be revegetated with riparian vegetation to create a wider corridor of riparian habitat that will support a more diverse assemblage of habitats. Up to an additional 80 acres of riparian habitat may be established within the riparian corridor. In addition, approximately 2.5 acres of invasive plants will be removed and 70 cubic yards of trash and debris will be removed. A wider and more complex corridor of riparian habitat could provide increased foraging and refugia opportunities for California red-legged frog adjacent to the creek channel. A more robust riparian corridor could also facilitate California red-legged frog dispersal within the Riparian Corridor.

Mortality, Injury, Harm and Harassment

The use of large and small construction equipment to conduct work in upland habitat for Central California tiger salamander and California red-legged frog could disturb, collapse, or crush animal burrows resulting in injury or mortality to any Central California tiger salamanders or California red-legged frogs present. Construction traffic in work areas and between work areas may also result in injury and mortality of individuals due to vehicle strike. Vibration, dust, noise, contaminants (i.e. fuel leaks), and lighting associated with use of construction equipment could cause individuals in and near construction activities to vacate the area. Displaced Central California tiger salamanders or California red-legged frogs will be subject to increased potential for predation, desiccation, and their ability to find required resources such as food and shelter will be reduced as they move. The following activities will require the use of small and/or large construction equipment: the construction of residential, commercial and recreational development and associated facilities in the EDC Area; the implementation of CERCLA remediation activities within IR Site 22; the construction of recreational facilities in the EBRPD PBC Area; the removal and construction of creek crossings; trail construction and creek restoration and flood conveyance work within the Mt. Diablo Riparian Corridor; construction of wetlands within the EDC Area and Mt. Diablo Riparian Corridor; habitat restoration, enhancement, and creation within the EBRPD PBC area; and habitat maintenance activities, as prescribed in a Service-approved Long Term Management Plan (see Conservation Measure 4c in the *Description of the Proposed Action* section above), including pond maintenance and repair and restoration of existing facilities within the EBPRD PBC area.

Work within Mt. Diablo Creek (i.e. stream crossings, installation of the pipeline to the water tower, stream/riparian restoration) could result in injury or mortality to any California red-legged frogs present in the creek. California red-legged frogs could also be injured or killed if they become entrained or trapped in pumps used for dewatering a work area or stranded within the dewatered work area. In addition, work could result in the temporary reduction in water quality in Mt. Diablo Creek. Increased turbidity or hazardous substances from leaking equipment or uncured concrete could result in decreased water quality. Reduced water quality could result in mortality (in the case of uncured concrete) or reduced reproductive success, prey availability, and foraging success of California red-legged frogs. Contaminated equipment and workers could also introduce or spread nonnative invasive plant species, which would diminish habitat quality.

In order to minimize the amount of injury and mortality to Central California tiger salamanders and California red-legged frogs resulting from construction activities, a number of avoidance and minimization measures will be implemented (see Conservation Measure 9 in the *Description of the Proposed Action* section above). Wildlife exclusion fencing will be installed around work areas to prevent amphibians from entering the construction area. Wildlife exclusion fencing will include

escape ramps or funnels that will allow Central California tiger salamanders and California red-legged frogs within the work area to leave but not enter the development area. Wildlife exclusion fencing will be monitored for any Central California tiger salamanders or California red-legged frogs stranded along the fenceline and any stranded individuals will be relocated according to a Service-approved relocation plan. In addition, conducting awareness training for employees, conducting preconstruction surveys for listed species, having a Service-approved biologist present at work sites to prevent injury to individuals and move them to a safe location, and limitations on nighttime work and work during the wet season will minimize injury and mortality to Central California tiger salamanders. Implementing BMPs for erosion control, restricting maintenance and fueling of vehicles and equipment to designated areas, ensuring that creek water does not come in contact with uncured concrete, having a Service-approved biologist present during work in the creek, and properly screening pump intakes will minimize injury and mortality of Central California tiger salamander and California red-legged frog during work in the Mt. Diablo Riparian Corridor.

Although preconstruction surveys and the presence of on-site biological monitors will reduce the likelihood of injury of Central California tiger salamander and California red-legged frogs, capturing and handling frogs and salamanders to remove them from a work area may result in the harassment, injury, or mortality of individuals. Stress, injury, and mortality may occur as a result of improper handling, containment, and transport of individuals. Death and injury of individuals could occur at the time of relocation or later in time subsequent to their release. Although survivorship for translocated California tiger salamanders or California red-legged frogs has not been estimated, survivorship of translocated wildlife, in general, is lower because of intraspecific competition, lack of familiarity with the location of potential breeding, feeding, and sheltering habitats, and increased risk of predation. Improper handling, containment, or transport of individuals will be reduced or prevented by use of Service-approved biologists.

Indirect Effects

The biological integrity of habitat adjoining developed areas can be diminished by indirect effects associated with the developed area that take place following development and extend beyond the development footprint after development is completed. Development of the EDC Area as well as increased human presence and recreational use of the EBRPD PBC Area and the Mt. Diablo Riparian Corridor will result in indirect effects that will likely diminish the quality of habitat within the EBPRD PBC area and the riparian corridor and may result in harm, harassment, injury or death of Central California tiger salamanders and California red-legged frogs. Indirect effects could result from: increased human disturbance, increased levels of noise and lighting, increased numbers of urban-adapted predators (e.g. skunks and raccoons), increased numbers of domestic predators (e.g. dogs and cats), and increased vehicle-related disturbance and vehicle strikes. Increased human presence could also facilitate other indirect effects such as the spread of disease and non-native invasive species and increased risk of wildfire. These indirect effects will likely be greatest in habitat near the boundary of EDC Area and in areas with more intense recreational use within the EBRPD PBC area (i.e. group picnic sites, parking areas, and the Port Chicago monument and visitor center).

The increased presence of people and dogs in the Mt. Diablo Riparian Corridor and the EBRPD PBC Area may affect Central California tiger salamanders and California red-legged frogs by trampling habitat and disturbing individual animals, potentially creating a level of disturbance that could cause Central California tiger salamanders or California red-legged frogs to avoid or abandon previously occupied habitat (Taylor and Knight 2003). House cats or feral cats that stray into the riparian corridor or EBRPD PBC Area and stray dogs or dogs accompanying recreationists could

kill or injure Central California tiger salamanders or California red-legged frogs. Trash and discarded food items could result in increased numbers of urban adapted predators such as skunks, raccoons, and ravens leading to increased predation of Central California tiger salamanders and California red-legged frogs. One study found that a population of wood turtles in a wildlife preserve closed to recreational use steadily declined and was eventually extirpated following opening the preserve to recreational use. Based on observations by the researchers, the study hypothesized that the decline was likely related to increased predation resulting from an increase in predators associated with increased garbage (Garber and Burger 1995). Within the EBRPD PBC Area, trash and discarded food will likely be most problematic at sites such as group picnic sites, parking areas, at the Port Chicago monument and visitor center, and along trails within the riparian corridor where the most intense recreational use will occur.

Increased traffic on existing roads adjacent to and/or within EBPRD PBC Area and the riparian corridor could result in increased risk of injury or mortality of Central California tiger salamanders and California red-legged frogs due to vehicle strikes; this risk is highest on roads that Central California tiger salamanders or California red-legged frogs are likely to cross during migrations to and from breeding habitat (for example on roads in the EBRPD PBC Area that are located between breeding ponds and the riparian corridor). However, because both Central California tiger salamanders and California red-legged frogs migrate primarily on rainy nights, and normal park hours will be limited to between dawn and dusk, the threat of vehicle strikes will be reduced.

Increased nighttime lighting within the EDC Area could potentially attract Central California tiger salamanders or California red-legged frogs into the development area and/or increase the chance they will be subject to predation (Wise and Buchanan 2006). Increased lighting could also result in the reduced ability of Central California tiger salamanders and California red-legged frogs to detect and capture prey (Buchanan 1993) or result in antipredator responses associated with a perceived risk of predation due to increased lighting (Lima and Dill 1990) which could in turn affect an individuals' ability to acquire needed resources. Increased nighttime lighting has also been found to affect the timing of migration or dispersal movements of salamanders and frogs (Wise and Buchanan 2006). Effects of lighting will likely be greatest in habitat adjacent to the tournament sports facility and where development abuts the riparian corridor.

Development within the EDC Area will increase the area of impervious surfaces in the Reuse Area which will affect the hydrology and water quality of Mt. Diablo Creek. Increased runoff could result in increased sediment loads, increased turbidity, and increased loads of pollutants, pesticides, and other contaminants (Paul and Meyer 2001). Increased sedimentation, turbidity and pollutants in Mt. Diablo Creek could adversely affect the health and fecundity of California red-legged frogs inhabiting the creek and could potentially reduce their ability to forage if turbidity reaches a level that reduces their ability to detect prey or if contaminant loads result in a reduction of prey populations. It is also likely that the increase in impervious surfaces and urban runoff from development will result in more perennial water within the creek. Although there may be benefits for California red-legged frogs associated with increased availability of aquatic habitat, perennial water may also result in an increase in the number of bullfrogs inhabiting the riparian corridor and result in increased predation of California red-legged frogs.

Indirect effects from increased lighting associated with development will be minimized by implementing restrictions on lighting that will limit the amount, location, and intensity of lighting (see Conservation Measure 13 in the *Description of the Proposed Action* section above). The City will also conduct outreach efforts (see Conservation Measure 12 in the *Description of the Proposed Action* section

above) and install of signage to inform residents and visitors about the presence of special-status species and to inform residents of the importance of maintaining control of pets and avoiding sensitive areas.

Indirect effects from recreational use will be minimized by implementing the conservation measures and siting guidelines described in Conservation Measure 8 in the *Description of the Proposed Action* section above and managing the EBRPD PBC Area according to a Service-approved Long-term Management Plan. Measures to be implemented include siting park facilities and trails in locations that will minimize impacts to Central California tiger salamander and California red-legged frog, limiting recreational use to low intensity activities such as hiking, horseback riding, and non-motorized bicycling; creating buffers around breeding habitat for Central California tiger salamanders and California red-legged frogs; and locating lighting away from sensitive habitat. Adverse effects will also be minimized by establishing large contiguous blocks as Resource Conservation Zones that will be managed specifically for the benefit of species and where recreational use will not be allowed. Resource Protection Zones within the EBRPD PBC Area will be established around the highest quality habitat for listed species within the EBRPD PBC Area; these include 185 acres around the Hilltop Ponds, 35 acres around Cistern Pond, and 400 acres around Rattlesnake Canyon south of Bailey Road.

In addition, to help offset the effects of development and use of park facilities EBPD will remove 10.3 miles of rail lines in strategic locations within the EBRPD PBC Area and will restore segments of existing roads in sensitive areas within Resource Protection Zones. Rail lines can act as barriers to salamander movement (Bartoszek and Greenwald 2009) and existing rail lines within the EBRPD PBC may limit or prevent Central California tiger salamander movement between breeding sites or between upland habitat and breeding sites. Removal of rail lines in the locations shown on Figure 7 will remove potential barriers to Central California tiger salamander movement that could limit dispersal from and movement to and between breeding ponds. The restoration of road segments within Resource Protection zones will help deter recreational use within these restricted areas as well as increase the amount of upland habitat for Central California tiger salamander and California red-legged frog within these areas.

Habitat Conservation, Enhancement and Management

The combined preservation, restoration/enhancement, and management of habitat for Central California tiger salamander and California red-legged frog on-site and off-site will help ensure that local populations of these species persist and continue to have habitat linkages to other habitat in the region. The large block of habitat that will be preserved, enhanced and managed within the EBRPD PBC Area is anticipated to continue to support populations of Central California tiger salamander and California red-legged frog within the Reuse Area. Off-site compensatory lands that will be preserved will aim to complement the ECCC HCP/NCCP preserve system and result in large contiguous blocks of preserved land that will support the formation of habitat linkages described in the ECCC HCP/NCCP and will contribute to regional recovery efforts for these species.

Alameda Whipsnake

Because the area where Alameda whipsnakes are expected to occur within the Reuse Area is limited to the portion of the Reuse Area south of Bailey Road where no EDC-related development will take place, adverse effects to Alameda whipsnake will be limited to those associated with recreational use and development and with habitat enhancement and management within the EBRPD PBC Area.

These activities could result in the injury or death of individual Alameda whipsnakes and/or result in non-lethal harm and harassment of surviving individuals.

Habitat Loss and Fragmentation

The 887 acres of the EBRPD PBC Area south of Bailey Road provide potential habitat for Alameda whipsnake. A small portion (less than 5 acres) of the 16.5 acres of habitat that will be developed with recreational facilities by EBRPD fall within this area. To minimize the loss of Alameda whipsnake habitat, no recreational development will take place within the Rattlesnake Canyon Resource Protection Zone, which is the portion of the Reuse Area most likely to support Alameda whipsnake. The loss of this limited amount of habitat outside of the Rattelsnake Canyon Resource Protection Zone is not likely to result in a decline in the number of Alameda whipsnakes within the Reuse Area or adjacent areas or result in fragmentation of habitat for Alameda whipsnake.

Temporary Habitat Disturbance

Up to 10 acres of habitat for Alameda whipsnake may be temporarily disturbed by habitat restoration, enhancement and creation activities, and by habitat maintenance and management activities. Temporary disturbance or loss of habitat could cause individual Alameda whipsnakes in or near work areas to vacate the area. Displaced whipsnakes will be subject to increased potential for predation and their ability to find required resources such as food and shelter will be reduced as they move.

Mortality, Injury, Harm and Harassment

The use of large and small construction equipment could disturb, collapse, or crush animal burrows resulting in injury or mortality to any Alameda whipsnakes present. Construction traffic in work areas and between work areas may also result in injury and mortality of individuals due to vehicle strike. Vibration, dust, noise, contaminants (i.e. fuel leaks), and lighting associated with use of construction equipment could cause individuals in and near construction activities to vacate the area. Displaced Alameda whipsnakes could be subject to increased potential for predation and their ability to find required resources such as food and shelter may be reduced as they move. Avoidance and minimization measures (see Conservation Measure 4c.*v* in the *Description of the Proposed Action* section above) will be implemented to minimize effects to listed species associated with recreational development and operations and maintenance activities within the EBPRD PBC Area.

Indirect Effects

Recreational use of the EBRPD PBC Area south of Bailey Road will result in indirect effects to Alameda whipsnake similar to those described above for Central California tiger salamander and California. These include habitat disturbance and disturbance of individual whipsnakes as a result of increased human presence, increased predation by urban-adapted and domestic predators, and increased risk of vehicle strikes. Increased human presence could also facilitate other indirect effects such as the spread of disease and non-native invasive species and increased risk of wildfire.

Due to their diurnal activity pattern, Alameda whipsnakes are likely less vulnerable than Central California tiger salamanders and California red-legged frogs to indirect effects associated with night-time lighting. However, because of their tendency to bask in open areas, including roads, trails, and other developed areas (Miller and Alvarez 2016), they are likely more vulnerable to injury or

mortality from vehicle strikes and to human disturbance related to use of recreational trails. The risk for vehicle strikes of Alameda whipsnake will be highest in the proposed parking areas south of Bailey Road and the associated access road.

Locating the access road and parking areas south of Bailey Road outside the Rattlesnake Canyon Resource Protection Zone, will diminish the risk of injury and mortality to Alameda whipsnakes from vehicle strikes. In addition, by establishing the Rattlesnake Canyon Resource Protection Zone around the highest quality habitat for Alameda whipsnake within the Reuse Area, indirect effects to Alameda whipsnake will be minimized. Indirect effects to Alameda whipsnake will be also reduced by implementing the conservation measures and siting guidelines described in Conservation Measure 8 in the *Description of the Proposed Action* section above and managing the EBRPD PBC Area according to a Service-approved long-term management plan.

Habitat Conservation and Management

Because habitat within the EBRPD PBC Area south of Bailey Road (the portion of the Reuse Area that provides habitat for Alaemda whipsnake) will be preserved, enhanced and managed, this area is anticipated to continue to provide habitat for any local populations of Alameda whipsnake that may use this area. In addition, preservation of off-site compensatory lands which will aim to complement the ECCC HCP/NCCP preserve system will also likely provide benefits to Alameda whipsnake populations in the region.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. During this consultation, the Service did not identify any future non-federal actions that are reasonably certain to occur in the action area of the proposed project.

Conclusion

After reviewing the current status of Central California tiger salamander, California red-legged frog, and Alameda whipsnake , the environmental baseline for the action area, the effects of the proposed Transfer and Redevelopment of the Former Concord Naval Weapons Station, and the cumulative effects, it is the Service's biological opinion that the Transfer and Redevelopment of the Former Concord Naval Weapons Station, as proposed, is not likely to jeopardize the continued existence of the Central California tiger salamander, California red-legged frog, or Alameda whipsnake. The Service reached this conclusion because the project-related effects to the species, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding recovery or reducing the likelihood of survival of the species based on the following: (1) proposed development is located within the portion of the Reuse Area that provides the lowest quality habitat for listed species; (2) the implementation of numerous conservation measures to minimize the effects of the proposed project on listed species, (3) the preservation and management in perpetuity of over 3,600 acres (should all proposed development occur) of habitat (on- and off-site) for Central California tiger salamander and California red legged frog; and (4) the proposed enhancement and restoration of habitat within the EBRPD PBC Area to offset the

adverse effects of development and recreation on the EBPRD PBC Area on Central California tiger salamanders, California red-legged frogs, and Alameda whipsnakes.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by FWS regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Navy or the Corps respectively so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Navy and the Corps have a continuing duty to regulate the activity covered by this incidental take statement. If the Navy or the Corps (1) fail to assume and implement the terms and conditions or (2) fail to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Take

California Red-legged Frog

The Service anticipates that incidental take of the California red-legged frog will be difficult to detect due to its life history and ecology. Specifically, when California red-legged frogs are not in their breeding ponds, they may be difficult to locate due to their cryptic appearance and behavior; they may be located a distance from breeding ponds; and the finding of an injured or dead individual is unlikely because of their relatively small body size. In addition, if a dead or injured California red-legged frog is detected, there is no means of equating one dead or injured frog to a number of dead or injured frogs not observed. Losses of California red-legged frog may also be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances.

Therefore, the Service is using acres as a mechanism to quantify anticipated take. We estimate that all California red-legged frogs inhabiting the 2,558-acre area consisting of the EDC Area, City-owned portion of the golf course, off-site road improvements, County PBC, and BART parcel will be subject to incidental take in the form of non-lethal harm and harassment during the estimated 35

years of phased development. In addition, because of the difficulty in detecting injured or dead individual California red-legged frogs (for the reasons described previously), the Service will consider the detection of more than twenty (20) injured or dead California red-legged frogs during 35 years of phased development to have exceeded the amount of take anticipated as a result of project-related development activities. Development activities include: all EDC development phases (including CERCLA activities at IR Site 22 prior to start of development); Mt. Diablo Creek restoration and maintenance; golf course construction, operation and maintenance; wetland creation; and installation of the water tank within the portion of the EDC Area that will later be preserved as part of the on-site conservation lands. By setting this threshold we have set an incidental take limit that is measureable, irrefutable, and indicates that the species is being affected at a level where avoidance and minimization measures and project implementation need to be evaluated and possibly modified. This estimate is based on the following assumptions: (1) it is likely that few if any California red-legged frogs will be detected should they be injured or killed by EDC development phases, golf course operation, or wetland creation; (2) most detectable take of California red-legged frogs will occur during Mt. Diablo Creek restoration and maintenance, in particular during in-stream work involving dewatering and relocation of individuals (adult or juvenile frogs) out of work areas; while most of this take is anticipated to be in the form of harassment resulting from capture and relocation, a small percentage of these individuals may be injured or killed.

Within the 2,516-acre EBRPD PBC Area, the Service anticipates that all California red-legged frogs will be subject to incidental take in the form of non-lethal harm and harassment as a result of adjacent development, park operation and use, and habitat restoration/enhancement and management. Although only approximately 85 acres will be developed with park facilities, indirect effects from park operation and public recreation will result in harm and harassment to California red-legged frogs beyond facility footprints. Management activities and habitat restoration and enhancement within EBRPD PBC Areas restricted from recreational use will also result in non-lethal harm and harassment of individuals. In particular, activities such as pond enhancement/restoration and periodic pond maintenance could result in the non-lethal harm and harassment associated with capture and relocation. In addition, the Service will consider the detection of more than one (1) injured or dead California red-legged frog per year to have exceeded the amount of take anticipated as a result of project-related development, operation, or use of recreational facilities, and the detection of more than an average (based on a four-year moving average) of five (5) injured or dead California red-legged frogs (adults, metamorphs, or tadpoles) per year as a result of habitat restoration/enhancement activities or habitat management activities within the EBRPD PBC Area. By setting this threshold we have set an incidental take limit that is measureable, irrefutable, and indicates that the species is being affected at a level where avoidance and minimization measures and project implementation need to be evaluated and possibly modified. This estimate is based on the following assumptions: (1) it is likely that few if any California red-legged frogs will be detected should they be injured or killed by development or use of recreational facilities; (2) most detectable take of California red-legged frogs will occur during pond restoration/enhancement and pond maintenance work that will take place periodically to create and/or maintain favorable habitat conditions; while most take associated with these activities is anticipated to be in the form of harassment resulting from capture and relocation, a small percentage of these individuals may be injured or killed, particularly young metamorphs or tadpoles that may still be present in ponds at the end of the breeding season when pond work will typically take place. Because these types of activities are unlikely to occur every year but could result in higher numbers of individuals being injured or killed during years when work is conducted, we have used a moving average as a threshold for take.

While the proposed project is expected to result in the death or injury of 20 frogs from development activities over the 35 years of phased development as well as one frog per year from recreational development and use, and an average of five frogs per year from habitat management activities, we do not expect that this level of take will eliminate the local metapopulation of California red-legged frogs. As discussed in the effects section of this biological opinion, we expect the local metapopulation of California red-legged frogs to persist within enhanced and preserved habitat in the On-site Conservation Lands and in the Mt. Diablo Creek Riparian Corridor.

Upon implementation of the Reasonable and Prudent Measures, incidental take associated with the Transfer and Redevelopment of the Former Concord Naval Weapons Station Project in the form of harm, harassment, injury, and death of the California red-legged frog in the amount outlined above will become exempt from the prohibitions described under section 9 of the Act. No other forms of take are exempted under this opinion.

Central California Tiger Salamander

The Service anticipates that incidental take of the Central California tiger salamander will be difficult to detect because when Central California tiger salamanders are not in their breeding ponds, or foraging, migrating, or conducting other surface activity, they inhabit the burrows of ground squirrels or other rodents; the burrows may be located a distance from the breeding ponds; their migrations occur on a limited period during rainy nights in the fall, winter, or spring or when juveniles disperse from ponds in the summer; and the finding of an injured or dead individual is unlikely because of their relatively small body size. In addition, if a dead or injured Central California tiger salamander is detected, there is no means of equating one dead or injured salamander to a number of dead or injured salamanders not observed. Losses of this species also may be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances.

Therefore, the Service is using acres as a mechanism to quantify anticipated take. We estimate that all Central California tiger salamanders inhabiting the 2,558-acre area consisting of the EDC Area, City-owned portion of the golf course, off-site road improvements, County PBC, and BART parcel will be subject to incidental take in the form of non-lethal harm and harassment during the estimated 35 years of phased development. In addition, because of the difficulty in detecting injured or dead individual Central California tiger salamanders (for the reasons described previously), the Service will consider the detection of more than ten (10) injured or dead Central California tiger salamanders during 35 years of phased development to have exceeded the amount of take anticipated as a result of project-related development activities. Development activities include: all EDC development phases (including CERCLA activities at IR Site 22 prior to start of development); Mt. Diablo Creek restoration and maintenance; golf course construction, operation and maintenance; wetland creation; and installation of the water tank within the portion of the EDC Area that will later be preserved as part of the on-site conservation lands. By setting this threshold we have set an incidental take limit that is measureable, irrefutable, and indicates that the species is being affected at a level where avoidance and minimization measures and project implementation need to be evaluated and possibly modified. This estimate is based on the following assumptions: (1) it is likely that few if any Central California tiger salamanders will be detected should they be injured or killed by EDC development phases, golf course operation, or wetland creation; (2) most detectable take of Central California tiger salamanders will occur along wildlife exclusion fencelines should individuals migrating or dispersing become stranded along fencelines.

Within the 2,516-acre EBRPD PBC Area, the Service anticipates that all Central California tiger salamanders will be subject to incidental take in the form of non-lethal harm and harassment as a result of adjacent development, park operation and use, and habitat restoration/enhancement and management. Although only approximately 85 acres will be developed with park facilities, indirect effects from park operation and public recreation will result in harm and harassment to Central California tiger salamanders beyond facility footprints. Management activities and habitat restoration and enhancement within EBRPD PBC Areas restricted from recreational use will also result in non-lethal harm and harassment of individuals. In particular, activities such as pond enhancement/restoration and periodic pond maintenance could result in the non-lethal harm and harassment associated with capture and relocation. In addition, the Service will consider the detection of more than one (1) injured or dead Central California tiger salamander per year to have exceeded the amount of take anticipated as a result of project-related development, operation, or use of recreational facilities, and the detection of more than an average (based on a four-year moving average) of five (5) injured or dead Central California tiger salamanders (adults, juveniles, or larvae) per year as a result of habitat restoration/enhancement activities or habitat management activities within the EBRPD PBC Area. By setting this threshold we have set an incidental take limit that is measureable, irrefutable, and indicates that the species is being affected at a level where avoidance and minimization measures and project implementation need to be evaluated and possibly modified. This estimate is based on the following assumptions: (1) it is likely that few if any Central California tiger salamanders will be detected should they be injured or killed by development or use of recreational facilities; (2) most detectable take of Central California tiger salamanders will occur during pond restoration/enhancement and pond maintenance work that will take place periodically to create and/or maintain favorable habitat conditions; while most take associated with these activities is anticipated to be in the form of harassment resulting from capture and relocation, a small percentage of these individuals may be injured or killed, particularly juveniles and larvae that may still be present in ponds at the end of the breeding season when pond work will typically take place. Because these types of activities are unlikely to occur every year but could result in higher numbers of individuals being injured or killed during years when work is conducted, we have used a moving average as a threshold for take.

While the proposed project is expected to result in the death or injury of 10 Central California tiger salamanders from development activities over the 35 years of phased development as well as one salamander per year from recreational development and use, and an average of five salamanders per year from habitat management activities, we don't expect that this level of take will eliminate the local metapopulation of Central California tiger salamanders. As discussed in the effects section of this biological opinion, we expect the local metapopulation of Central California tiger salamanders to persist within the enhanced and preserved habitat in the on-site conservation lands.

Upon implementation of the Reasonable and Prudent Measures, incidental take associated with the Transfer and Redevelopment of the Former Concord Naval Weapons Station Project in the form of harm, harassment, injury, and death of the Central California tiger salamander in the amount outlined above will become exempt from the prohibitions described under section 9 of the Act. No other forms of take are exempted under this opinion.

Alameda Whipsnake

The Service expects that incidental take of the Alameda whipsnake will be difficult to detect because this animal may range over a large territory and the finding of an injured or dead individual is

unlikely because of their relatively small body size. Therefore, the Service is using acres as a mechanism to quantify anticipated take. The Service anticipates that all Alameda whipsnakes inhabiting the 887 acres of the EBRPD PBC Area south of Bailey Road will be subject to incidental take in the form of non-lethal harm, harassment, and capture during park operation and management. In addition, the Service anticipates that no more than one (1) Alameda whipsnake will be subject to incidental take in the form of death or injury as a result of development, operation, or use of recreational facilities or as a result habitat management or restoration/enhancement activities and will and be detected.

Upon implementation of the Reasonable and Prudent Measures, incidental take associated with the Transfer and Redevelopment of the Former Concord Naval Weapons Station Project in the form of harm, harassment, injury, and death of the Alameda whipsnake in the amount outlined above will become exempt from the prohibitions described under section 9 of the Act. No other forms of take are exempted under this opinion.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

All necessary and appropriate measures to avoid or minimize effects on the Central California tiger salamander, California red-legged frog, and Alameda whipsnake resulting from implementation of this project have been incorporated into the project's proposed conservation measures. Therefore, the Service believes the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of these species:

1. All conservation measures in the *Description of the Proposed Action* section of this biological opinion shall be fully implemented and adhered to. Further, this reasonable and prudent measure shall be supplemented by the terms and conditions below.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Navy and the Corps must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. The Navy, City, and EBRPD shall reduce take of Central California tiger salamander, California red-legged frog and Alameda whipsnake resulting from the Transfer and Redevelopment of the Former Concord Naval Weapons Station Project by implementing the proposed project and conservation measures, as described in the *Description of the Proposed Action* section of this biological opinion.

2. The Navy will ensure that the City complies with the conditions of transfer described in conservation measure 1 in the *Description of the Proposed Action*. The Navy will provide documentation of each parcel transfer described in the *Description of the Proposed Action* of this biological opinion to the Service within five business days of parcel transfer.

3. The Corps shall include implementation and adherence by the applicant to the conservation measures included in the *Description of the Proposed Action* in this biological opinion as a condition of any permit issued for the project.

4. If requested, the Navy, Corps, City or EBRPD (as applicable) shall ensure the Service or their authorized agents can examine the action area for compliance with the conservation measures and terms and conditions of this biological opinion before, during, or after project completion.

Monitoring:

In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, the Navy and the Corps shall ensure the following reporting requirements are adhered to. Should the anticipated amount or extent of incidental take be exceeded, the Navy and the Corps must immediately reinitiate formal consultation as per 50 CFR 402.16.

a. For those components of the action that will result in habitat degradation, modification, or loss whereby incidental take in the form of harm and/or harassment is anticipated, the Service's Sacramento Fish and Wildlife Office (SFWO), Coast Bay Division Chief will be notified as described in Conservation Measure 11 in the *Description of the Proposed Action* Section of this Biological Opinion. Updates shall also include any information about changes in project implementation that result in habitat disturbance not described in the *Description of the Proposed Action* and not analyzed in this Biological Opinion.

b. For those components of the action that may result in direct encounters with listed species, should incidental take in the form of harassment, harm, injury, or death occur, the relevant party (Navy, Corps, City, or EBRPD) will contact SFWO, Coast Bay Division Chief at (916) 414-6623 as described in Conservation Measure 9r in the *Description of the Proposed Action Section* of this Biological Opinion. In addition, in order to ensure that the amount of take described in the *Incidental Take Statement* above is not exceeded, any incidental take of listed species in the form of death or injury will be reported to the City LRA and the City LRA will track the take of individuals resulting from implementation of the Area Plan. Within five days of any injury or mortality of a listed species, the City LRA will provide a report to the Service summarizing the cumulative take of individuals to date.

c. The Navy, Corps, City and EBRPD, respectively, will report sightings of listed or sensitive animal species to CDFW's CNDDB. A copy of the reporting form and a topographic map clearly marked with the location the animals were observed should also be provided to the Service.

Salvage and Disposition of Individuals:

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instruction s are received from the Service regarding the

disposition of the dead specimen. The Service contact person is the Coast Bay Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at (916) 414-6623.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1. The Navy should work with EBRPD during interim management periods and parcel transfer to identify and implement actions that would improve habitat conditions for listed species in the EBRPD PBC Area.

2. The Navy and the Corps should assist the Service in implementing recovery actions identified in the Recovery Plan for the California Red-legged Frog (Service 2002), Draft Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California (Service 2003), and Draft Recovery Plan for Central California Tiger Salamander (Service 2016).

3. The Navy and Corps should encourage or require the use of appropriate locally collected California native species in revegetation and habitat enhancement efforts.

4. To avoid transferring disease or pathogens while handling amphibians, the Navy and the Corps should follow or encourage applicants to follow the Declining Amphibian Populations Task Force Fieldwork Code of Practice (Service 2005).

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the Transfer and Redevelopment of the Former Concord Naval Weapons Station Project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and:

(a) If the amount or extent of taking specified in the incidental take statement is exceeded;
(b) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
(c) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or
(d) If a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this biological opinion, please contact Ryan Olah, Coast Bay Division Chief (Ryan_Olah@fws.gov), at the letterhead address or at (916) 414-6623 .

Sincerely,

Jennifer M. Norris
Field Supervisor

Enclosure

cc:
Erica Spinelli. Department of the Navy, San Diego, California
Guy Bjerke, City of Concord, Concord, California
Robert Doyle, East Bay Regional Park District, Oakland California
Jim Starr, California Department of Fish and Wildlife, Napa, California

LITERATURE CITED

Barry, S. 1992. Letter to Marvin L. Plenert, Regional Director, U.S. Fish and Wildlife Service, Portland, Oregon, regarding proposed listing.

Bartoszek, J. and Greenwald, R.G. 2009. A Population Divided: Railroad tracks as barriers to gene flow in an isolated population of marbled salamanders (*Ambystoma opacum*). Herpetological Conservation and Biology 4(2):191-197.

Bobzien, S. and J.E. DiDonato. 2007. The status of the California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylii*), and other aquatic herpetofauna in the East Bay Regional Park District, California. East Bay Regional Park District, Oakland, California.

Buchanan, B.W. 1993 Effects of enhanced lighting on the behavior of nocturnal frogs. Animal Behaviour 45:893-899.

Bulger, J. B., N. J. Scott Jr., and R. B. Seymour. 2003. Terrestrial activity and conservation of adult California red-legged frogs *Rana aurora draytonii* in coastal forests and grasslands. Biological Conservation 110:85-95.

Bury, R.B and J.A. Whelan. 1984. Ecology and management of the bullfrog. Fish and Wildlife Service Resource Publication 155.

California Department of Fish and Wildlife (CDFW). 2016. RAREFIND. California Natural Diversity Data Base, Natural Heritage Division, Sacramento, California.

Condor Country. 2016. California tiger salamander and California red-legged frog trapping at Eagles Nest on the Former Naval Weapons Station, Seal Beach Detachment, Concord (TETT_COND_044_WE14_102615).

Davidson, E. W., M. Parris, J. P. Collins, J. E. Longcore, A. P. Pessier, J. Brunner. 2003. Pathogenicity and transmission of *Chytridiomycosis* in tiger salamanders (*Ambystoma tigrinum*). Copeia 2003(3):601–607.

Downard, G.T., P. Guertin, and M. Morrison. 1999. Characterization of Wildlife and Plant Communities for Naval Weapons Station Seal Beach, Detachment Concord. July 1998 to September 1999 results. University of Arizona, Advanced Resources Technology Group.

Emlen, S. T. 1977. "Double Clutching" and its possible significance in the bullfrog. Copeia 1977(4):749-751.

Fellers, G. 2005. *Rana draytonii* Baird and Girard, 1852b California red-legged frog. Pages 552-554 *in* M. Lannoo (editor). Amphibian declines the conservation status of United States species. University of California Press. Berkeley, California.

Fisher, R. N., and H. B. Schaffer. 1996. The Decline of Amphibians in California's Great Central Valley. Conservation Biology 10(5):1387-1397.

Garber S.D. and Burger J. 1995. A 20-year study documenting the relationship between turtle decline and human recreation. Ecological Applications 5(4): 1151-1162.

Garner, T. W. J., M. W. Perkins, P. Govindarajulu, D. Seglie, S. Walker, A. A. Cunningham, and M. C. Fisher. 2006. The Emerging Amphibian Pathogen *Batrachochytrium dendrobatidis* Globally

Infects Introduced Populations of the North American Bullfrog, *Rana catesbeiana*. Biology Letters 2:455-459..

Hayes, M. P., and M. R. Jennings. 1988. Habitat Correlates of Distribution of the California Red-Legged Frog (*Rana aurora draytonii*) and the Foothill Yellow-Legged Frog (*Rana boylii*): Implications for Management. Pages 144-158 in R. Sarzo, K. E. Severson, and D. R. Patton (technical coordinators). Proceedings of the Symposium on the Management of Amphibians, Reptiles, and Small Mammals in North America. United States Department of Agriculture, Forest Service, Rocky Mountain Range and Experiment Station, Fort Collins, Colorado. General Technical Report (RM-166): 1-458.

Hayes, M. P. and D. M. Krempels. 1986. Vocal Sac Variation among Frogs of the Genus Rana from Western North America. Copeia 1986(4):927-936.

Hayes, M. P. and M. M. Miyamoto. 1984. Biochemical, Behavioral and Body Size Differences between *Rana aurora aurora* and *R. a. draytonii*. Copeia 1984(4):1018-1022.

Hayes, M. P., and M. R. Tennant. 1985. Diet and Feeding Behavior of the California Red-Legged Frog, *Rana aurora draytonii* (Ranidae). Southwestern Naturalist 30(4): 601-605.

H. T. Harvey & Associates. 2011. Concord Community Reuse Plan California tiger salamander larval survey report (Service File No. 81420-2011-TA-0337). Prepared for the City of Concord.

Hunt, L. 1993. Letter to Marvin L. Plenert, Regional Director, U.S. Fish and Wildlife Service, Portland, Oregon, regarding proposed listing.

Jennings, M.R. 1993. Letter to Peter C. Sorensen, U.S. Fish and Wildlife Service, Sacramento, California.

Jennings, M.R. 2004. An annotated checklist of the amphibians and reptiles of California and adjacent waters. California Fish and Game 90(4):161-213.

Jennings, M. R., and M. P. Hayes. 1985. Pre-1900 overharvest of California red-legged frogs (*Rana aurora draytonii*): The inducement for bullfrog (*Rana catesbeiana*) introduction. Herpetological Review 31(1):94-103.

_____ 1990. Final report of the status of the California red-legged frog (*Rana aurora draytonii*) in the Pescadero Marsh Natural Preserve. Final report prepared for the California Department of Parks and Recreation, Sacramento, California, through Agreement (4-823-9018). Department of Herpetology, California Academy of Sciences, Golden Gate Park, San Francisco, California. 30 pages.

_____ 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California. 255 pages.

Jennings, M. R., M. P. Hayes, and D. C. Holland. 1992. A petition to the U.S. Fish and Wildlife Service to place the California red-legged frog (*Rana aurora draytonii*) and the western pond turtle (*Clemmys marmorata*) on the List of Endangered and Threatened Wildlife and Plants. 21 pages.

Jones & Stokes Associates Inc. 1982. A Natural Resources Survey Naval Weapons Station Concord, California. Prepared for Natural Resources Management Branch, Western Division, Naval Facilities Engineering Command.

Kupferberg, S. J. 1996a. Hydrologic and geomorphic factors affecting conservation of a river-breeding frog (*Rana boylii*). Ecological Applications 6: 1322-1344.

_____ 1996b. The ecology of native tadpoles (*Rana boylii* and *Hyla regilla*) and the impacts of invading bullfrogs (*Rana catesbeiana*) in a northern California river. PhD dissertation. University of California, Berkeley, California.

_____ 1997. Bullfrog (*Rana catesbeiana*) invasion of a California river: the role of larval competition. Ecology 78(6):1736-1751.

Kruse, K. C. and M. G. Francis. 1977. A predation deterrent in larvae of the bullfrog, *Rana catesbeiana*. Transactions of the American Fisheries Society 106(3):248-252.

Lande, R. 1988 Genetics and Demography in Biological Conservation. Science 241:1455-1460.

Lima, S.L. and Dill, L.M. 1990. Behavioral decisions made under the risk of predation: a review and prospectus. Canadian Journal of Zoology. 68(4):619-640

Lips, K. R., F. Brem, R. Brenes, J. D. Reeve, R. A. Alford, J. Voyles, C. Carey, L. Livo, A. P. Pessier, and J. P. Collins. 2006. Emerging infectious disease and the loss of biodiversity in a neotropical amphibian community. Proceedings of the National Academy of Sciences 103(9):3165-3170.

Mao, J., D. E. Green, G. M. Fellers, and V. G. Chincar. 1999. Molecular characterization of iridoviruses isolated from sympatric amphibians and fish. Virus Research 6: 45-52.

Miller, A. and Alvarez, J.A. 2016. Habitat use and management considerations for the threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*) in Central California. Western Wildlife 3(notes):29-32.

Moyle, P. B. 1976. Fish introductions in California: history and impact on native fishes. Biological Conservation 9(1):101-118.

Orloff, S.G. 2011. Movement patterns and migration distances in an upland population of California tiger salamander (*Ambystoma californiense*). Herpetological Conservation and Biology 6(2): 266-276.

Paul, M. L. & Meyer, J. L. (2001) Streams in the urban landscape. Annual Review of Ecology and Systematics 32, 333–365.

Primack, R.B. 1993. Essentials of Conservation Biology. Sunderland, MA: Sinauer Associates.

Shaffer, M.L. 1987. Minimum viable populations: coping with uncertainty. In Michael Soule (ed.), Viable Populations for Conservation , pp. 69-86. Cambridge University Press.

Shaffer, H. B., G.M. Fellers, S. R. Voss, C. Oliver, and G.B. Pauley. 2010. Species boundaries, phylogeography, and conservation genetics of the red-legged frog (*Rana aurora/draytonii*) complex. Molecular ecology 13: 2667-2677.

Smallwood, K.S. and M.L. Morrison. 2007. A Monitoring Effort to Detect the Presence of the Federally Listed Species California Tiger Salamander and California Red-Legged Frog at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Prepared for U.S. Navy, Navy Facilities Engineering Command, South West.

Stebbins, R. C. 2003. A field guide to western reptiles and amphibians. Houghton Mifflin Company, Boston, Massachusetts.

Storer, T. I. 1925. A synopsis of the amphibia of California. University of California Publications in Zoology 27:1-1-342.

Tatarian, P. J. 2008. Movement patterns of California red-legged frogs (*Rana draytonii*) in an inland California environment. Herpetological Conservation and Biology 3(2):155-169.

Taylor, A.R. and Knight R.L. 2003. Wildlife responses to recreation and associated visitor perceptions. Ecological Applications. 13(4):951-963.

Twedt, B. 1993. A comparative ecology of *Rana aurora* Baird and Girard and *Rana catesbeiana* Shaw at Freshwater Lagoon, Humboldt County, California. Master of Science thesis. Humboldt State University, Arcata, California. 53 pages plus appendix.

U. S. Fish and Wildlife Service. 1996. Endangered and threatened wildlife and plants; determination of threatened status for the California Red-Legged Frog. Federal Register 61:25813-25833.

_____ 2002. Recovery plan for the California red-legged frog (*Rana aurora draytonii*). Portland, Oregon. 173 pages.

_____ 2005. Revised guidance on site assessments and field surveys for the California red-legged frog. Sacramento, California.

_____ 2006. Endangered and threatened wildlife and plants; designation of critical habitat for the California red-legged frog (*Rana aurora draytonii*), and special rule exemption associated with final listing for existing routine ranching activities; final rule. Federal Register 71(71):19244-19346. April 13.

_____2006a Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Alameda Whipsnake, final rule. Federal Register 71:58176-58231.

_____ 2010. Endangered and Threatened Wildlife and Plants: Revised Designation of Critical Habitat for California Red-Legged Frog; Final Rule. Federal Register 75(51):12816-12959. March 17.

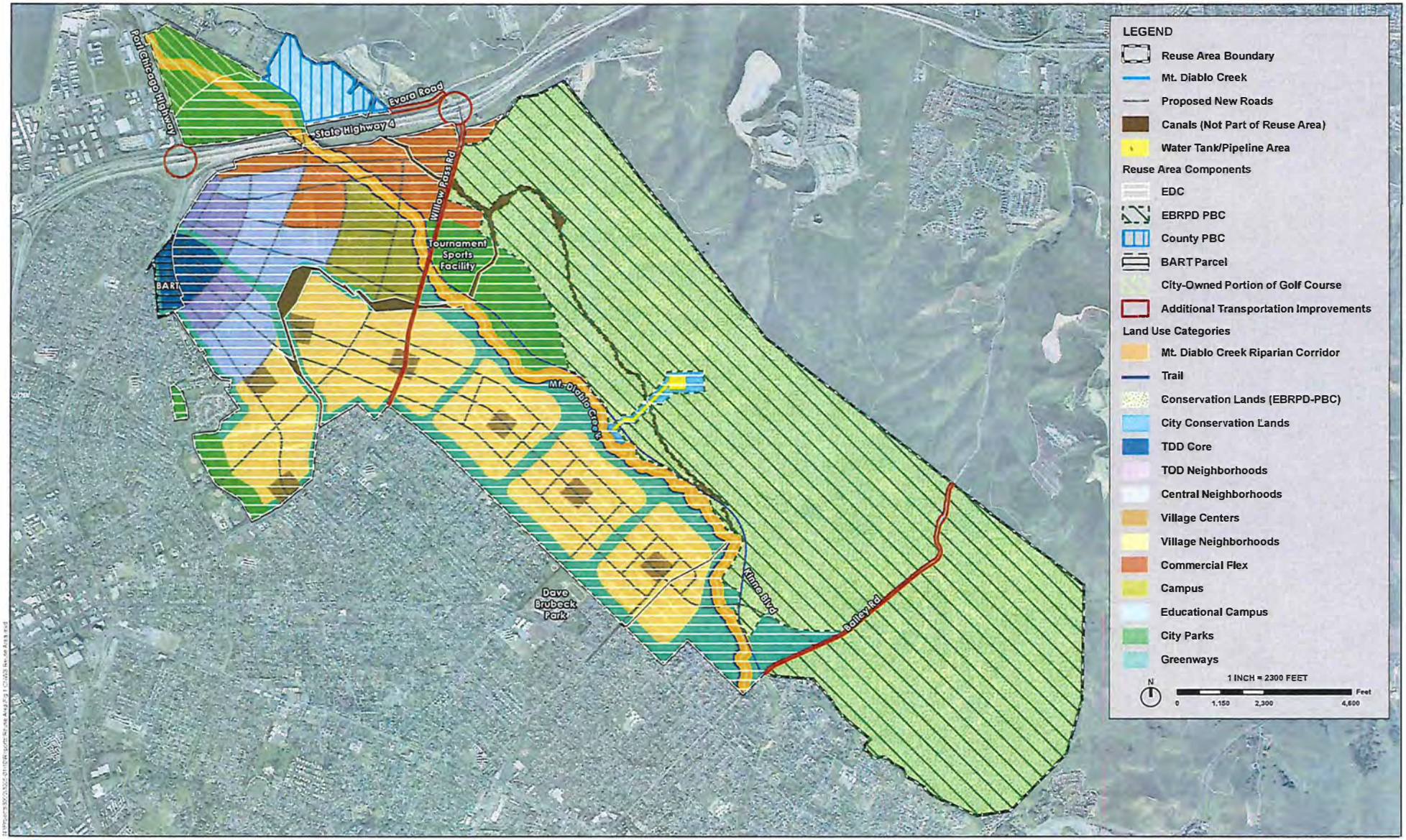
_____2011. Alameda Whipsnake (*Masticophis lateralis euryxanthus*) 5-Year Review: Summary and Evaluation. Sacramento, California. 34 pages.

_____ 2014. California Tiger Salamander Central California Distinct Population Segment (*Ambystoma californiense*) 5-year Review: Summary and Evaluation. Sacramento, California. 63 pages.

_____ 2016. Draft Recovery Plan for the Central California Distinct Population Segment of of the California Tiger Salamander (*Ambystoma californiense*). Sacramento, California. 62 pages.

Wise, S.E. and B.W. Buchanan. 2006. Influence of artificial illumination on the nocturnal behavior and physiology of salamanders. *In* C. Rich and T. Longcore (eds.), Ecological Consequences of Artificial Night Lighting. Pages 221-251. Island Press, Washington DC.

Wright, A. H. and A. A. Wright. 1949. Handbook of Frogs and Toads of the United States and Canada. Comstock Publishing Company, Inc., Ithaca, New York. 640 pages.



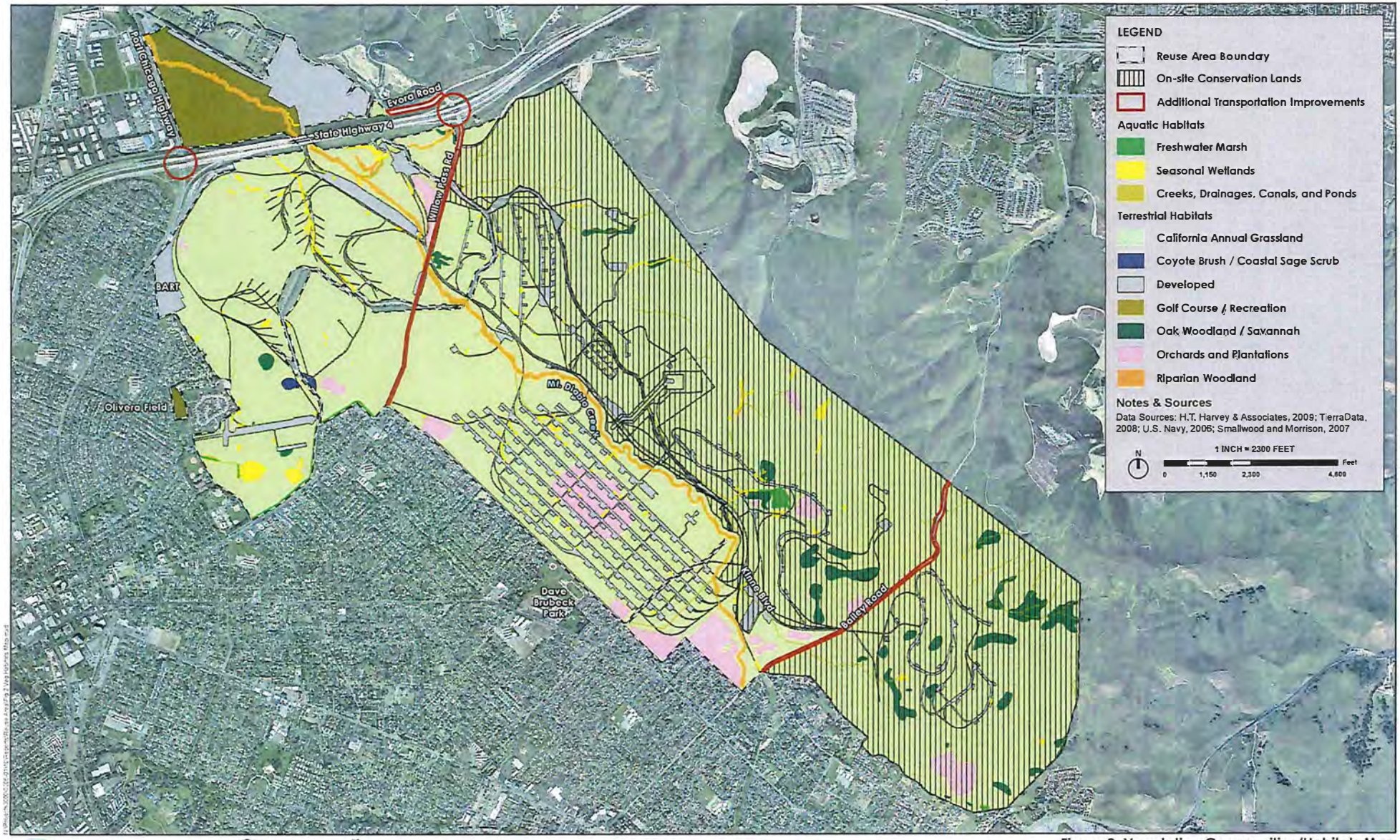
H. T. HARVEY & ASSOCIATES
Ecological Consultants

Concord Community Reuse Plan

Figure 1. CNWS Reuse Area

Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord

February 2017



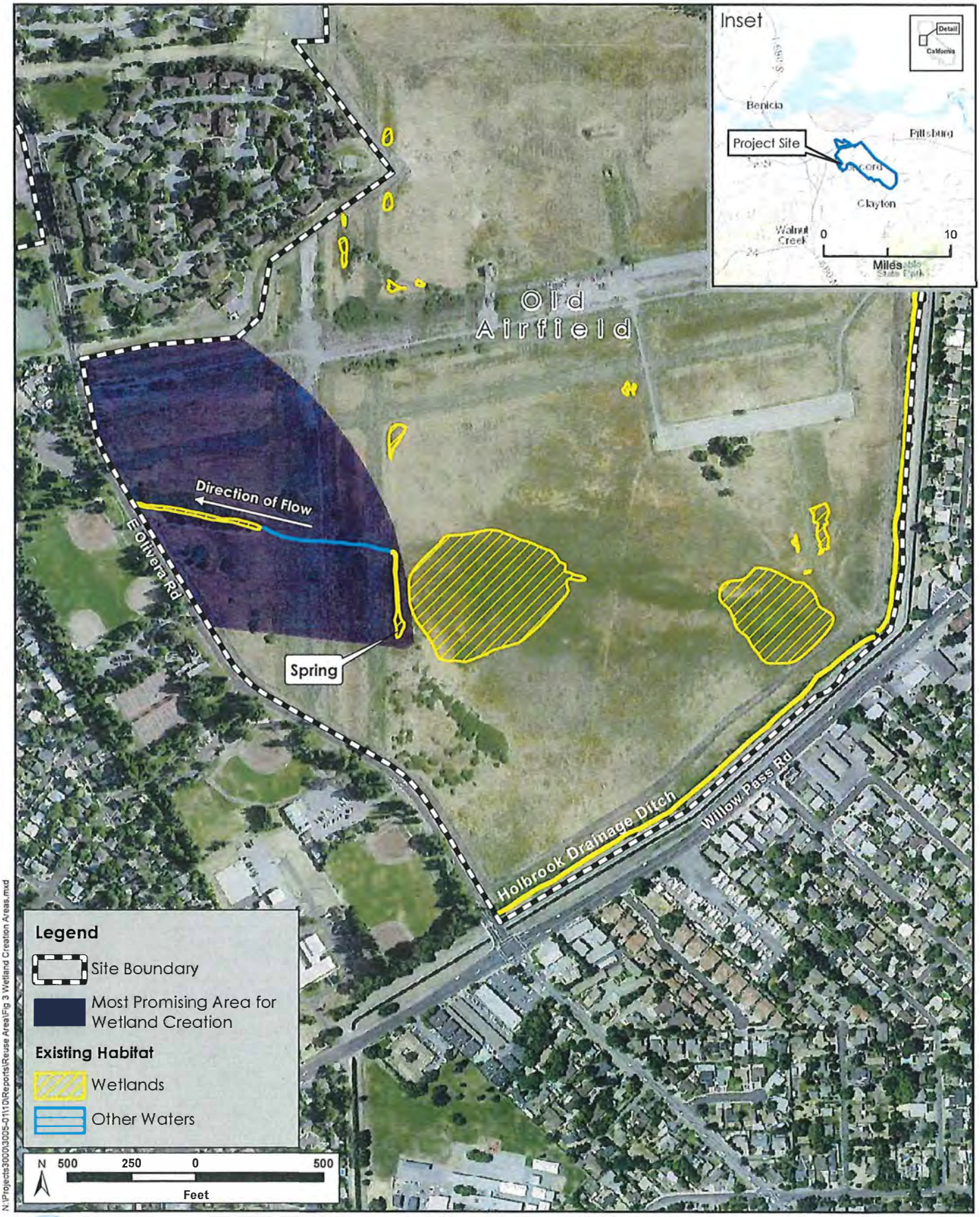
H. T. HARVEY & ASSOCIATES
Ecological Consultants

Concord Community Reuse Plan

Figure 2. Vegetation Communities/Habitats Map

Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord

March 2017

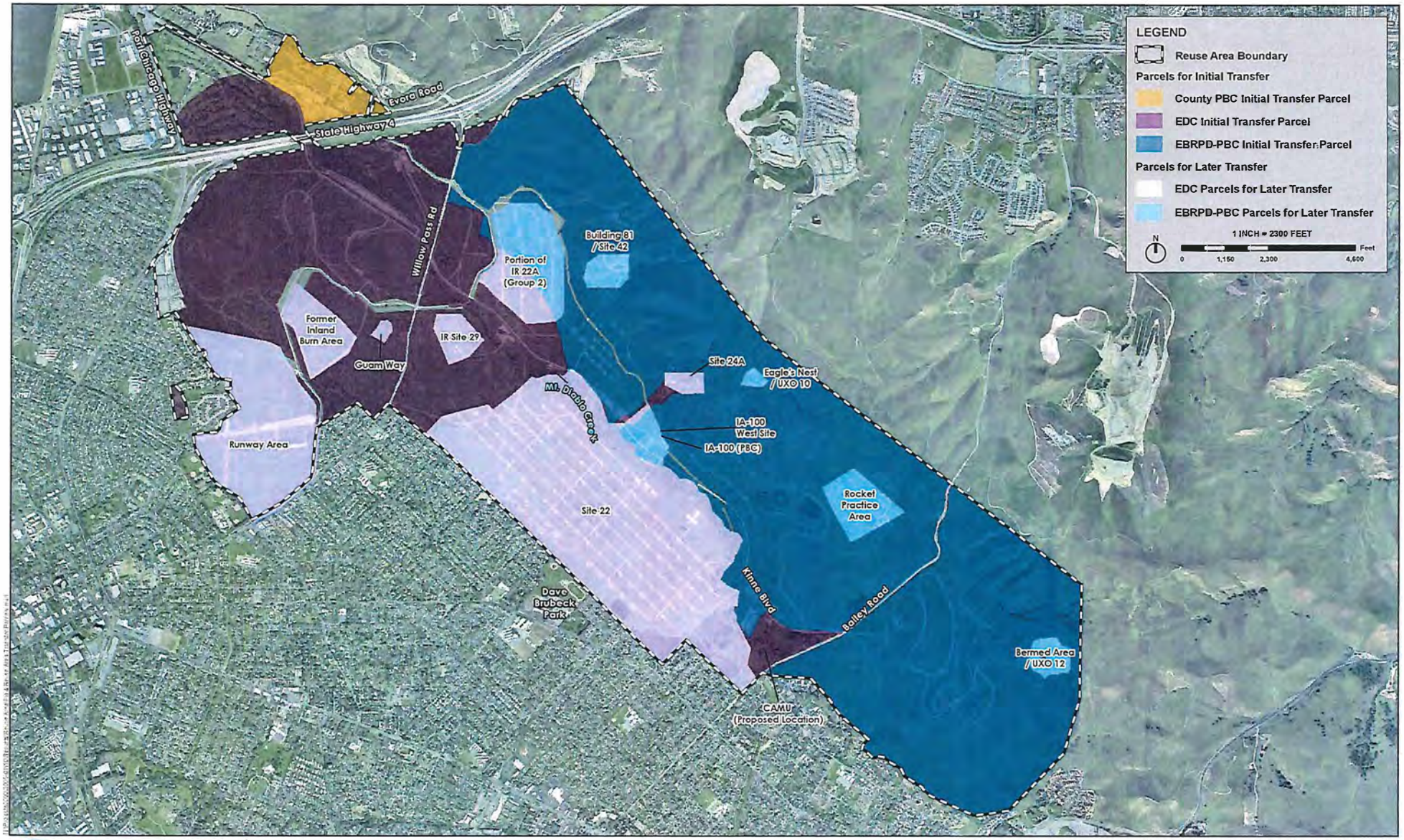


H. T. HARVEY & ASSOCIATES
Ecological Consultants

Concord Community Reuse Plan

Figure 3. Potential Wetland Creation Areas

Disposal and Reuse of the Former Naval Weapons Station
Seal Beach, Detachment Concord
March 2017



H. T. HARVEY & ASSOCIATES
Ecological Consultants

Concord Community Reuse Plan

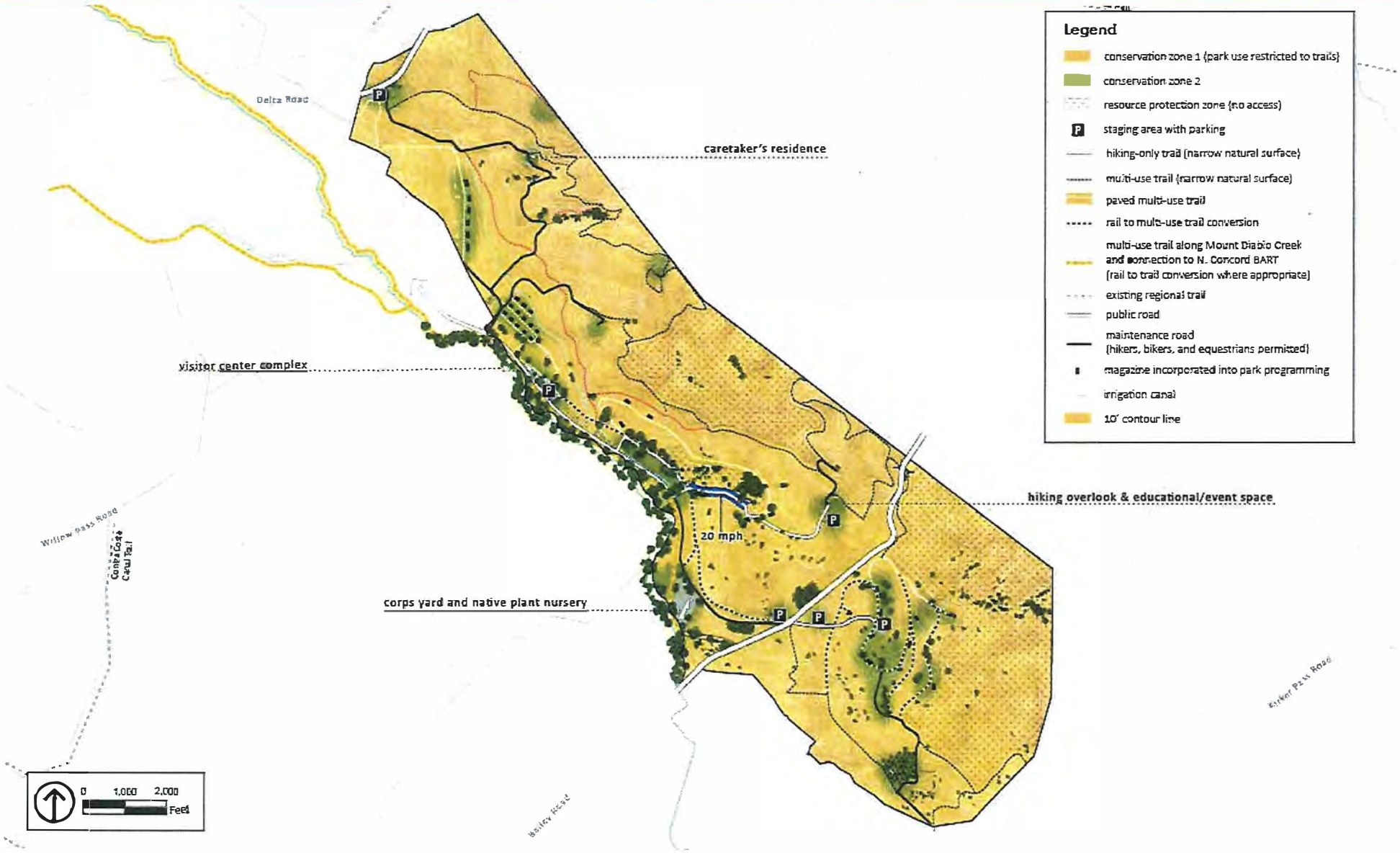
Figure 4. Reuse Area Transfer Parcels

Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord

March 2017

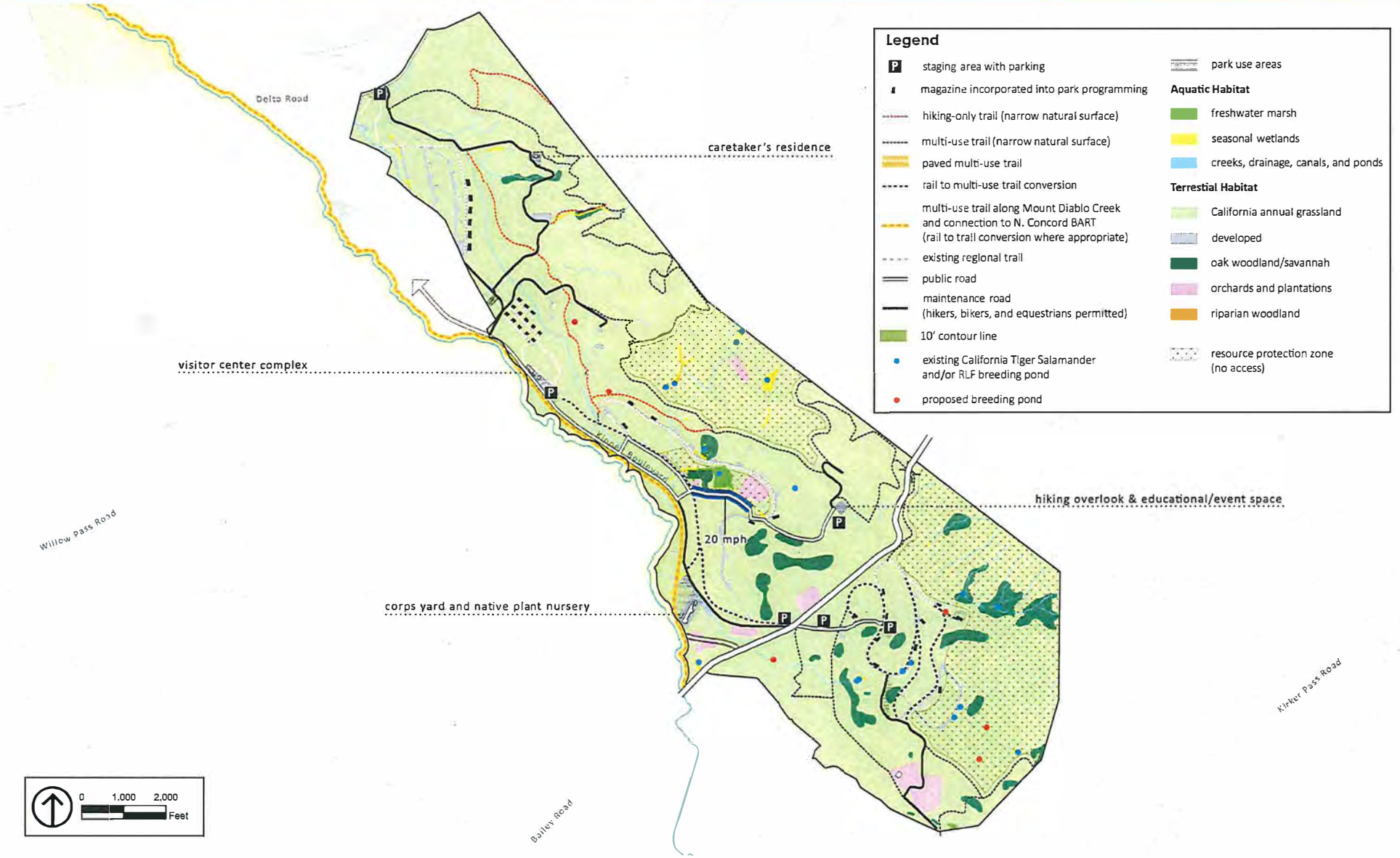
Conceptual Park Use Plan

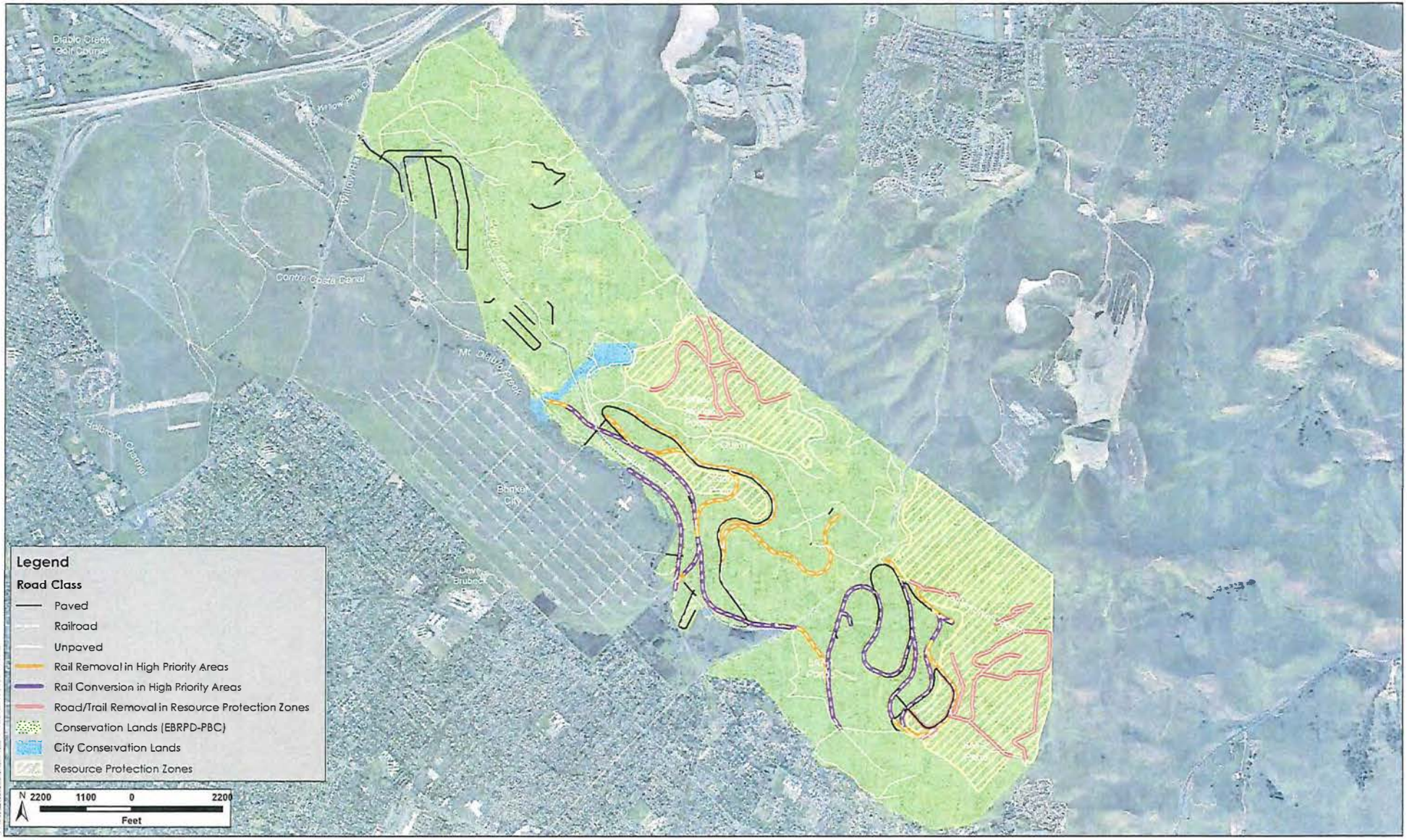
Figure 5



Relationship between Conceptual Park Uses and Habitat

Figure 6





H.T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 7. Proposed Restoration
Concord Hills Regional Park (3665-01)
March 2017



H. T. HARVEY & ASSOCIATES
Ecological Consultants

Concord Community Reuse Plan

Figure 8. Named Pond Locations

Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord
March 2017

Appendix J Section 106 MOA

This page intentionally left blank.

FINAL - March 2017

SECTION 106 MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES NAVY, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE CITY OF CONCORD, AND THE EAST BAY REGIONAL PARK DISTRICT REGARDING THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION, CONCORD, IN CONCORD, CALIFORNIA

WHEREAS, the U.S. Department of Navy (Navy) has closed and is directed under the Defense Base Realignment and Closure Act (DBCRA) of 1990, Pub. L. No. 101-510, as amended in 2005, to dispose of the former Naval Weapons Station, Concord (the "former NWS Concord") in Concord, California; and

WHEREAS, the Navy has previously executed Federal-to-Federal property transfers and approximately 5,038 acres of surplus property at the Inland Area remain available for transfer out of Federal ownership; and

WHEREAS, the Navy is required to protect and maintain surplus property under its caretaker maintenance program prior to transfer; and

WHEREAS, the Navy is authorized to allow for interim use of property under its pre-conveyance licensing and leasing program; and

WHEREAS, the Navy's transfer of approximately 5,038 acres out of Federal ownership and the Navy's caretaker maintenance and pre-conveyance licensing and leasing programs constitute the Navy's Section 106 Undertaking ("Undertaking") and the 5,038-acre area constitutes the Area of Potential Effects (APE); and

WHEREAS, a portion of the APE will be transferred to the City of Concord ("City") and the City proposes economic development (housing, commercial, parks and recreation, roadways/transportation, and other urban infrastructure), creek restoration, and wetland creation on the "City Parcel"; and

WHEREAS, a portion of the APE will be transferred to the East Bay Regional Park District (EBRPD) and the EBRPD proposes to create a regional park that includes conservation, passive recreational and educational facilities, visitor-serving amenities, and a visitor's center on the "EBRPD Parcel"; and

WHEREAS, the Navy consulted with the California State Historic Preservation Officer (SHPO) and other consulting parties on a basewide Historic Evaluation Report which identified no architectural or built historic properties eligible for the National Register of Historic Places (NRHP) and subject to the Navy's property transfer, and received the California SHPO's concurrence on February 14, 2013; and

WHEREAS, the Contra Costa Canal, which includes the Contra Costa Canal, Clayton Canal, and associated facilities including appurtenances, laterals, turnouts, and access roads (collectively, the "Canal"), is a NRHP-eligible resource located within the APE, but is owned by the United States Bureau of Reclamation (USBR) and is not subject to Navy's Undertaking; and

WHEREAS, in the event that USBR would need to issue a permit or use authorization to support alterations to the Canal, the USBR would comply with Section 106, as appropriate; and

WHEREAS, the Navy completed a Phase I archaeological survey of the Inland Area in 2008; and

WHEREAS, the Navy consulted with Federally-Recognized Tribes on a Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action (PoA) to support the Phase II archaeological evaluation of the Inland Area; and

WHEREAS, in July 2012 the Navy executed a NAGPRA PoA with the California Valley Miwok Tribe, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians, which PoA was amended in August 2012, and the Navy reburied all human remains and NAGPRA cultural items on site at archaeological site CA-CCO-680; and

WHEREAS, the Navy identified prehistoric archaeological sites CA-CCO-680 and P-861 as the only NRHP-eligible resources, and determined that there are no identified rural historic landscapes, Traditional Cultural Properties, or Traditional Cultural Landscapes located within the APE that meet the criteria for listing in the NRHP; and

WHEREAS, the Navy consulted on the *National Register of Historic Places Evaluation of 21 Archaeological Sites in Support of the Environmental Impact Statement for Disposal and Reuse of the Former Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa, California* (Phase II archaeological evaluation report) with all interested consulting parties and received the California SHPO's concurrence on January 23, 2014 that CA-CCO-680 and P-861 are the only NRHP-eligible historic properties within the APE; and

WHEREAS, Site CA-CCO-680 is a prehistoric archaeological site eligible for listing in the NRHP under Criterion D, and the site contains human remains and is culturally and religiously significant to Native American people; and

WHEREAS, Site P-861 is a prehistoric archaeological site eligible for listing in the NRHP under Criteria A and D, and may have cultural and religious significance to Native American people; and

WHEREAS, the Navy consulted with the California SHPO, Advisory Council on Historic Preservation (ACHP), California Valley Miwok Tribe, the Ione Band of Miwok

Indians, the Shingle Springs Band of Miwok Indians, Wilton Rancheria, City, EBRPD, United States Bureau of Indian Affairs (USBIA), United States Army Corps of Engineers (USACE), the USBR, and the Concord Historical Society concerning the Undertaking and historical and archaeological evaluations; and

WHEREAS, the City adopted the Concord Reuse Project Area Plan on January 24, 2012 ("Area Plan," hereafter) and the Area Plan identifies "Development Districts" specifying allowable land uses in each area within the entire APE; and

WHEREAS, Site CA-CCO-680 is located on the City Parcel in the "Greenways, Citywide Parks, and Tournament Facilities" Development District, and Site P-861 is located on the EBRPD Parcel in the "Conservation Open Space" Development District, as depicted in Appendix A; and

WHEREAS, the Navy considered the reasonably foreseeable effects of reuse under the City's Area Plan and notified consulting parties and the ACHP of the Navy's Section 106 finding of adverse effect on March 3 and 4, 2014, respectfully; and

WHEREAS, the ACHP declined to participate in the consultation on April 28, 2014; and

WHEREAS, the property within the APE will not all be transferred simultaneously and instead, the Navy's Undertaking will include phased property transfers anticipated to occur between 2017 and 2026; and

WHEREAS, the City certified the "Concord Community Reuse Project Final Environmental Impact Report (2010)" and "Final Environmental Impact Report (EIR) Addendum (2012)" for the Area Plan in accordance with the California Environmental Quality Act (CEQA) and adopted the "Mitigation Monitoring and Reporting Program for the Concord Community Reuse Project" (MMRP) in accordance with Section 21081.6(a)(1) of the California Public Resources Code and Sections 15091(d) and 15097 of the State CEQA Guidelines; and

WHEREAS, the Concord Community Reuse Project EIR identified sites CA-CCO-680 and P-861 as archaeological resources and imposed mitigation with reference to each of those sites; and

WHEREAS, the City is legally required under Section 21081.6(b) of the California Public Resources Code to monitor and enforce all measures protecting and preserving Site CA-CCO-680 in place, including, Mitigation Measure Cultural Resources 1 that requires the preservation in place of Site CA-CCO-680 prior to the initiation of any earth-disturbing activities within 200 feet of the boundaries of Site CA-CCO-680, and Mitigation Measure Cultural Resources 3 that requires the implementation of inadvertent discovery measures by any public or private entity that engages in earth-disturbing activities; and

WHEREAS, the EBRPD will be conducting park land use planning and will conduct its own CEQA review to develop the EBRPD Parcel into a regional park; and

WHEREAS, the Navy has invited the City and EBRPD to be Invited Signatories to this Memorandum of Agreement (Agreement) in accordance with Title 36 of the Code of Federal Regulations (CFR), section 800.6(c)(2); and

WHEREAS, to facilitate implementation of the Area Plan, the City has applied to the USACE for a permit authorizing it to fill approximately 7 acres of waters of the United States within the APE pursuant to Section 404 of the Clean Water Act of 1977 (33 U.S.C. § 1344) (CWA); and

WHEREAS, the Navy formally accepted the USACE as a consulting party in the Navy's ongoing Section 106 consultation on April 1, 2013; and

WHEREAS, by correspondence to the Navy dated December 14, 2015, the USACE withdrew from consultation on this Agreement and stated that it would accept the Section 106 compliance work undertaken by the Navy and would incorporate the terms of this Agreement into the special conditions of any CWA permit issued; and

NOW, THEREFORE, the Signatory Parties (the Navy and California SHPO) and the Invited Signatories (City and EBRPD) (collectively, the "Signatory Parties" hereafter) agree that the Undertaking as described above shall be implemented in accordance with the following stipulations to take into account the effect of this Undertaking on historic properties.

STIPULATIONS

I. THE NAVY SHALL ENSURE THAT

A. Navy's Interim Management of Historic Properties Prior to Property Transfer

1. Prior to property transfer, the Navy will conduct interim management of Sites CA-CCO-680 and P-861 in the context of its caretaker maintenance and pre-conveyance licensing and leasing programs. These programs include vegetation management, building and infrastructure management actions, and issuance of interim real estate licenses and leases in advance of property transfer.

2. Caretaker maintenance and licensing/leasing actions will be reviewed by Qualified Staff in compliance with this Agreement and 36 CFR § 800. Consistent with the preservation mandates outlined in this Agreement, the Navy will engage in prescriptive avoidance of adverse effects to CA-CCO-680 and P-861.

3. For interim management activities involving ground disturbing activities, Qualified Staff shall determine and document the APE. Consistent with 36 CFR § 800.16(d), the APE will be defined as the geographical area or areas within which interim management activities may directly or indirectly cause alterations in the character or use of historic properties. APEs will include the planned area of surface and subsurface disturbance, including any associated lay down or staging areas. If any part of CA-CCO-680 or P-861 falls within an APE, the entire documented site will be included in the APE to include a buffer of 50 ft. Determination of an APE will not require individual consultation with the SHPO or other Consulting Parties to this Agreement.

4. When Qualified Staff determine that interim management activities with the potential to affect historic properties will not affect listed, contributing or eligible properties consistent with a finding of "No Historic Properties Affected" under 36 CFR § 800.4(d)(1), no further consultation with SHPO or Consulting Parties to this Agreement is required and the action may proceed.

5. For interim management activities, Navy will consult with the Consulting Parties to this Agreement regarding findings of "No Adverse Effect" in accordance with 36 CFR § 800.5(b) and to resolve any adverse effects in accordance with 36 CFR § 800.6.

B. Scope and Limitation of Navy Obligations and Federal Jurisdiction

1. The Navy's Section 106 and Section 110 responsibility and oversight for an NRHP-eligible property (historic property) will continue until the historic property is conveyed to the City or EBRPD, and the Navy's responsibilities will end at transfer of that historic property. Similarly, Federal jurisdiction for inadvertent discoveries also ends at land transfer. Management protocols and commitments by the City and EBRPD that apply to transferred property are described in Stipulations II and III.

2. Since property will be transferred in phases over a period of several years, the Navy, the City, and the EBRPD may each own portions of the former NWS Concord prior to the completion of the Navy's Undertaking. Therefore, the property ownership of any given area shall dictate the legal requirements and responsible party for cultural resources management therein.

C. Deed Notices

1. The Navy shall ensure that the following deed notice appears in any deed conveying property containing Site CA-CCO-680:

> "The GRANTEE, its successors, assigns, and sub-lessees, are hereby notified that the Property contains a National Register of Historic Places-eligible archaeological site determined to be eligible through Section 106 of the National Historic Preservation Act (NHPA) consultation and by consensus with the California State Historic Preservation Officer on January 23, 2014. Site CA-CCO-680 is a prehistoric archaeological site containing human remains, and is approximately 6.75 acres in size. The site is subject to the *Section 106 Memorandum of Agreement Between the United States Navy, the California State Historic Preservation Officer, the City of Concord, and East Bay Regional Park District Regarding the Disposal and Reuse of the Former Naval Weapons Station, Concord, in Concord, California*" (2017). The Memorandum of Agreement terminates ten years after its execution unless extended."

2. Pursuant to a Public Benefit Conveyance for park and recreational uses, the Navy intends to assign property to the Department of Interior (DOI), National Park Service (NPS), which will then issue a deed to the EBRPD. The Navy shall require in its assignment to the DOI, NPS that the quitclaim deed for Site P-861 include the following notice:

> "The GRANTEE, its successors, assigns, and sub-lessees, are hereby notified that the Property contains a National Register of Historic Places-eligible archaeological site determined to be eligible through Section 106 of the National Historic Preservation Act (NHPA) consultation and by consensus with the California State Historic Preservation Officer on January 23, 2014. Site P-861 is a prehistoric archaeological site and is approximately 0.51 acres in size. The site is subject to the *Section 106 Memorandum of Agreement Between the United States Navy, the California State Historic Preservation Officer, the City of Concord, and East Bay Regional Park District Regarding the Disposal and Reuse of the Former Naval Weapons Station, Concord, in Concord, California*" (2017). The Memorandum of Agreement terminates ten years after its execution unless extended."

II. THE CITY OF CONCORD AGREES THAT

A. Site CA-CCO-680 is eligible for listing in the NRHP under Criterion D and contains human remains.

B. Site CA-CCO-680 is culturally and religiously significant to Native American people.

C. The City of Concord will protect and preserve Site CA-CCO-680 by capping it, as described in Stipulation II.D., and preserving it in place within a greenway. The greenway will generally extend along the western boundary of the City Parcel north/northwest of Willow Pass Road. The greenway will accommodate pedestrian use only, and will not provide any active recreational facilities (e.g., no single-use or multi-use trails, no benches, no ball fields, no tennis courts, no basketball courts or hoops, etc.) or designated parking areas on the surface above Site CA-CCO-680. To prevent attracting attention, the site will not be fenced, and no surface treatment (e.g., marker, plaque, mound, boulder, etc.) identifying the site will be installed. The surface of the site will be landscaped with grasses, drought-tolerant plants, or similar landscaping consistent with the adjacent greenway.

D. Because of the reinterment in 1996 and 2012 of human skeletal remains and NAGPRA cultural items within the boundaries of Site CA-CCO-680, this resource shall be preserved in place according to the *Historic Property Treatment Plan For National Register Eligible Archaeological Site CA-CCO-680 (P-07-00003)* (N. Sikes, Ph.D., RPA (December 2015)) (Treatment Plan) attached as Appendix B. The Treatment Plan for CA-CCO-680 describes capping with geofabric atop at least a 4-foot layer of sterile soil over the approximately 2.68-acre portion of the site that retains a concentration of cultural material, intact cultural deposit and reburials; allowable passive pedestrian future uses atop the entire approximately 6.75-acre extent of Site CA-CCO-680, and the preservation of the entire site and an adjoining 50-foot wide protection buffer within a greenway on the land transferred by the Navy to the City.

E. The City will withhold from public disclosure, to the extent permitted by law, information about the location, character, and ownership of Site CA-CCO-680.

F. As a condition of any permit or entitlement issued by the City that will result in ground disturbance within the City Property, the City shall require implementation of Mitigation Measure Cultural Resources 3 contained in the MMRP and the Area Plan EIR, which requires the

implementation of inadvertent discovery measures by any public or private entity during earth-disturbing activities. The required inadvertent discovery measures include a worker education course for all construction personnel, on-site monitoring by Qualified Staff of all earth-disturbing activities within and adjacent to the boundaries of any NRHP-eligible or NRHP-listed property, on-site monitoring by Qualified Staff of all earth-disturbing activities within potentially sensitive native soils/sediments, and procedures for the discovery of cultural resources, including human remains, if Qualified Staff are not present.

G. Should the City's future reuse plans propose modifications or alterations to the Canal, the City of Concord will contact the USBR.

III. THE EAST BAY REGIONAL PARK DISTRICT (EBRPD) AGREES THAT

A. Site P-861 is eligible for listing in the NRHP under Criteria A and D, and may have cultural and religious significance to Native American people.

B. EBRPD will withhold from public disclosure, to the extent permitted by law, information about the location, character, and ownership of Site P-861.

C. EBRPD will protect and preserve Site P-861 as well as an adjoining 50-foot wide protection buffer, within a habitat conservation area that will be restricted from public access.

D. EBRPD will not permit recreational facilities, trails, utilities, parking areas, signage or plaques to be constructed atop Site P-861 or within the adjoining 50-foot wide buffer.

E. Ground disturbance on Site P-861 and within the 50-foot protection buffer surrounding Site P-861 will only be permitted for activities associated with habitat enhancement. If habitat enhancement activities are performed within this buffer area, EBRPD will protect the site from human activities and human agents of EBRPD, to the extent feasible, associated with the habitat enhancement.

F. For any Navy property transferred to EBRPD, the EBRPD will ensure that whenever any ground disturbance activities are undertaken within the EBRPD Parcel, the EBRPD will implement inadvertent discovery measures. The inadvertent discovery measures will include a worker education course for all construction personnel, on-site monitoring by Qualified Staff of all earth-disturbing activities within and adjacent to the boundaries of any NRHP-eligible or NRHP-listed property, on-site monitoring by Qualified Staff of all earth-disturbing activities within

potentially sensitive native soils/sediments, and procedures for the discovery of cultural resources, including human remains, if Qualified Staff are not present.

G. Should the EBRPD's future reuse plans propose modifications or alterations to the Canal, the EBRPD will contact the USBR.

IV. ADMINISTRATIVE PROVISIONS

A. Prior to property transfer, the Navy shall ensure the following:

1. Professional Standards and Qualifications

For the purposes of this Agreement "Qualified Staff" is defined as an individual who meets the Secretary of the Interior's *Professional Qualifications Standards* at 48 Fed. Reg. 44738-44739 (Sept. 29, 1983). Qualified Staff will have professional qualifications, training, and experience relevant to the technical requirements of a given undertaking.

2. Review of Documentation

If a Signatory Party fails to respond to a Navy submission for review within thirty (30) calendar days or such other time specified in this Agreement or the submission, the Navy may assume no comment from the non-responding party. Navy is not required to consider comments received after the specified time. The Navy shall take into account any comments received within the thirty (30) calendar days or other specified time in reaching a final decision on any documentation.

3. Post Review Discoveries

i) In the event of any post-review discovery of archaeological materials during Navy's ownership, all work in the area of the discovery shall stop immediately, and the Navy Base Realignment and Closure Program Management Office shall be notified. The Navy shall ensure that no unauthorized personnel have access to the site and no further work is done in the area of discovery until the Navy has complied with 36 CFR § 800.13(b).

ii) The Navy shall within forty-eight (48) hours notify and consult with the Signatory Parties for any post review discoveries and with the California Valley Miwok Tribe, the Ione Band of Miwok Indians, the Shingle Springs Band of Miwok Indians, if appropriate.

iii) Human remains and associated funerary objects encountered during Navy ownership shall be treated in accordance

with NAGPRA (25 U.S.C. §§ 3001 et seq). Informational copies of any notifications made under NAGPRA shall be provided to the Signatory Parties, California Valley Miwok Tribe, the Ione Band of Miwok Indians, the Shingle Springs Band of Miwok Indians.

iv) The Navy shall ensure that archaeological artifacts recovered from archaeological investigations or post review discoveries shall be stored in a curatorial repository that meets federal standards stipulated in 36 CFR § 79, *The Curation of Federally Owned and Administered Archaeological Collections*.

4. Dispute Resolution

i) Should any Signatory Party to this Agreement object to the performance by the Navy of any obligation under this Agreement, the Navy shall consult with the objecting Signatory Party to resolve the objection and notify the other Signatory Parties of this objection.

ii) If after initiating such consultation the Navy determines that the objection cannot be resolved through consultation, the Navy shall forward all documentation relevant to the objection to the ACHP, including the proposed response to the objection.

iii) Within thirty (30) calendar days after receipt of all pertinent documentation, the ACHP shall exercise one of the following options:

a) Advise the Navy that the ACHP concurs in the proposed response to the objection, whereupon the Navy shall respond to the objection accordingly; or

b) Provide the Navy with recommendations, which the Navy shall take into account in reaching a final decision regarding its response to the objections; or

c) Respond to the Navy that it will not consider the dispute or provide recommendations, in which case the Navy may proceed with the proposed resolution.

iv) Should the ACHP not exercise one of the above options within thirty (30) calendar days after receipt of all pertinent documentation, the Navy may move forward with its proposed response to the objection and make a final decision on how to respond to the objection.

5. Emergency Actions

i) Emergency actions are those actions deemed necessary by the Navy as an immediate and direct response to an emergency situation, which is a disaster or emergency declared by the President or the Governor of the State, or other immediate threats to life or property. Emergency actions under this Agreement are only those implemented within thirty (30) calendar days from the initiation of the emergency situation.

ii) If the emergency action has the potential to affect historic properties, the Navy shall notify the California SHPO and other Signatory Parties as appropriate prior to undertaking the action, when feasible. As part of the notification, the Navy shall provide a plan to address the emergency. The California SHPO shall have seven (7) calendar days to review and comment on the plan to address the emergency. If the California SHPO does not comment or object to the plan within the review period, the Navy shall implement the proposed plan.

iii) Should immediate threats to life or property necessitate prompt action and the Navy is unable to consult with the SHPO in accord with 5.ii. above prior to carrying out emergency actions, the Navy shall notify the SHPO and other Signatory Parties as appropriate within forty-eight (48) hours after the initiation of the emergency action. This notification shall include a description of the emergency action taken, the effects of the action(s) to historic properties, and, where appropriate, any further proposed measures to avoid, minimize, or mitigate potential adverse effects to historic properties. The California SHPO shall have seven (7) calendar days to review and comment on the proposal where further action is required to address the emergency. If the California SHPO does not object to the plan within the review period, the Navy shall implement the proposed plan.

iv) Where possible, such emergency actions shall be undertaken in a manner that does not foreclose future preservation or restoration of historic properties. Where such emergency actions may affect an historic property, they shall be undertaken in a manner that is consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. Where possible, such actions shall be done with on-site monitoring by Qualified Staff as defined in Stipulation IV.A.1.

v) If the SHPO and/or any other Signatory Party has reason to believe that a historic property may be adversely affected by an

emergency action, the party shall submit a request to the Navy to review and comment on that action.

6. Annual Reporting and Meetings

i) During Navy ownership, the Navy will submit annual reports to all Signatory Parties and Concurring Parties. The Navy will submit annual reports by January 31st of each year to report on activities of the prior calendar year. Email submission is acceptable. At a minimum, annual reports will:

1. Provide a status update on the Navy's Undertaking (status of property transfer);

2. List historic properties within the APE that are subject to a Navy real estate license or lease, or which have been transferred out of Navy ownership;

3. List and explain any problems or unexpected issues encountered in the prior year and Navy's approach to resolution; and

4. Include the Navy's recommendation on whether an annual meeting of Signatory Parties is necessary.

ii) During Navy ownership, the Signatory Parties will convene for an annual meeting or teleconference by March 31st, if requested by the California SHPO.

B. Amendment & Termination

1. Amendment

Any Signatory Party to this Agreement may propose that this Agreement be amended, whereupon all Signatory Parties shall consult for no more than thirty (30) days to consider such an amendment. The amendment will be effective on the date a copy signed by all of the original Signatory Parties is filed with the ACHP. If the Signatory Parties cannot agree to appropriate terms to amend the Agreement, any Signatory Party may terminate the Agreement in accordance with Stipulation IV.B.2., below.

2. Termination

i) If this Agreement is not amended as provided for in Section B.1. of this Stipulation, or if any Signatory Party proposed termination of this Agreement for other reasons, the Signatory Party proposing termination shall, in writing, notify the other Signatory Parties, explain the reasons for proposing termination, and consult with the other Signatory Parties for at least thirty (30) days to seek alternatives to termination.

ii) Should such consultation result in an agreement on an alternative to termination, the Signatory Parties shall proceed in accordance with the terms of that agreement.

iii) Should such consultation fail, the Signatory Party proposing termination may terminate this Agreement by promptly notifying the other Signatory Parties in writing. Termination hereunder shall render this Agreement without further force or effect.

iv) If this Agreement is terminated hereunder, and if the Navy determines that the Undertaking will nonetheless proceed, then the Navy shall comply with the requirements of 36 CFR §800.3-800.6, or request the comments of the ACHP, pursuant to 36 CFR § 800.7(a).

C. Anti-Deficiency Act

The obligations of the Navy under this Agreement are subject to the availability of appropriated funds, and the stipulations of this Agreement are subject to the provisions of the Anti-Deficiency Act. The Navy shall make reasonable and good faith efforts to secure the necessary funds to implement its obligations under this Agreement. If compliance with the Anti-Deficiency Act alters or impairs the ability of the Navy to implement its obligations under this Agreement, the Navy shall consult in accordance with the amendment and termination procedures found at Stipulation IV.B. above.

D. Duration

1. The duration of this Agreement shall be no more than ten (10) years following the date of execution by the Navy and California SHPO, or upon completion of the Undertaking (whichever comes first). If the terms are not satisfactorily fulfilled at that time, the Navy shall consult with the Signatory Parties and Concurring Parties to extend the Agreement or reconsider its terms. Reconsideration may include continuation of the Agreement as originally executed, amendment of the Agreement, or termination.

2. The Navy's obligations under this Agreement with respect to the property or any portion thereof are limited to those obligations accruing prior to transfer of the property, or portion thereof, out of Navy ownership.

3. The City's obligations under Stipulation II of this Agreement will apply only to those portions of the property that are owned or subject to the control of the City.

4. EBRPD's obligations under Stipulation III of this Agreement will apply only to those portions of the property that are owned or subject to the control of EBRPD.

5. The Undertaking will be complete when the Navy executes the transfer of the last parcel of surplus property at the former NWS Concord. The Navy shall notify all Signatory Parties and Concurring Parties when the Navy has executed the transfer of the last parcel of surplus property.

EXECUTION

Execution of this Agreement by the Navy and California SHPO and the implementation of its terms evidence that the Navy has taken, and will take, into account the effects of the Undertaking on historic properties at the former NWS Concord and afforded the ACHP an opportunity to comment.

SIGNATORIES

U.S. Navy—Base Realignment and Closure Program Management Office West
California State Historic Preservation Officer

INVITED SIGNATORIES

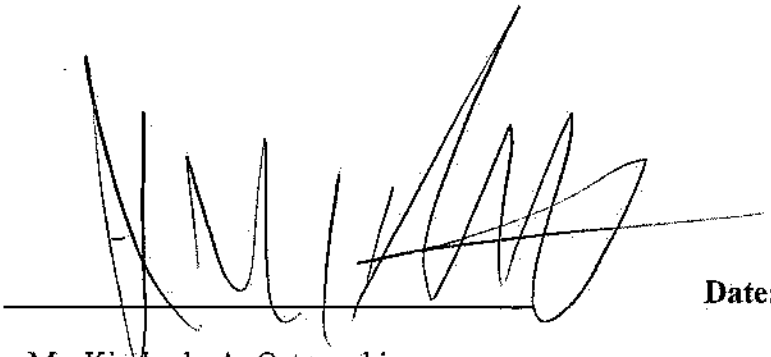
City of Concord
East Bay Regional Park District

CONCURRING PARTIES

Ione Band of Miwok Indians
Shingle Springs Band of Miwok Indians

CONCURRENT APPROVAL AND SIGNATURE PAGE FOR THE SECTION 106 MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES NAVY, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE CITY OF CONCORD, AND THE EAST BAY REGIONAL PARK DISTRICT REGARDING THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION, CONCORD, IN CONCORD, CALIFORNIA

UNITED STATES NAVY

By:  **Date:** 5/29/17

Ms. Kimberly A. Ostrowski
Director
Base Realignment and Closure
Program Management Office West

CONCURRENT APPROVAL AND SIGNATURE PAGE FOR THE SECTION 106 MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES NAVY, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE CITY OF CONCORD, AND THE EAST BAY REGIONAL PARK DISTRICT REGARDING THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION, CONCORD, IN CONCORD, CALIFORNIA

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

By: _____ **Date:** 10 April 2017

Ms. Julianne Polanco
State Historic Preservation Officer
California Office of Historic Preservation

CONCURRENT APPROVAL AND SIGNATURE PAGE FOR THE SECTION 106 MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES NAVY, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE CITY OF CONCORD, AND THE EAST BAY REGIONAL PARK DISTRICT REGARDING THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION, CONCORD, IN CONCORD, CALIFORNIA

CITY OF CONCORD
(Invited Signatory)

By: _____ **Date:** 4-1-17

Valerie Barone
City Manager

ATTEST:

By: _____ **Date:** 4/1/17

Joelle Fockler, MMC
City Clerk

APPROVED AS TO FORM:

By: _____ **Date:** 3/31/17

Susanne Meyer Brown
City Attorney

CONCURRENT APPROVAL AND SIGNATURE PAGE FOR THE SECTION 106 MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES NAVY, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE CITY OF CONCORD, AND THE EAST BAY REGIONAL PARK DISTRICT REGARDING THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION, CONCORD, IN CONCORD, CALIFORNIA

EAST BAY REGIONAL PARK DISTRICT
(Invited Signatory)

By: _____ **Date:** 4/3/17

Robert E. Doyle
General Manager, EBRPD

Approved as to Form:

District Counsel, EBRPD

CONCURRENT APPROVAL AND SIGNATURE PAGE FOR THE SECTION 106 MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES NAVY, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE CITY OF CONCORD, AND THE EAST BAY REGIONAL PARK DISTRICT REGARDING THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION, CONCORD, IN CONCORD, CALIFORNIA

CONCURRING PARTIES

By: _____ **Date:** _____

Ione Band of Miwok Indians

By: _____ **Date:** _____

Shingle Springs Band of Miwok Indians

SECTION 106 MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES NAVY, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE CITY OF CONCORD, AND THE EAST BAY REGIONAL PARK DISTRICT REGARDING THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION, CONCORD, IN CONCORD, CALIFORNIA

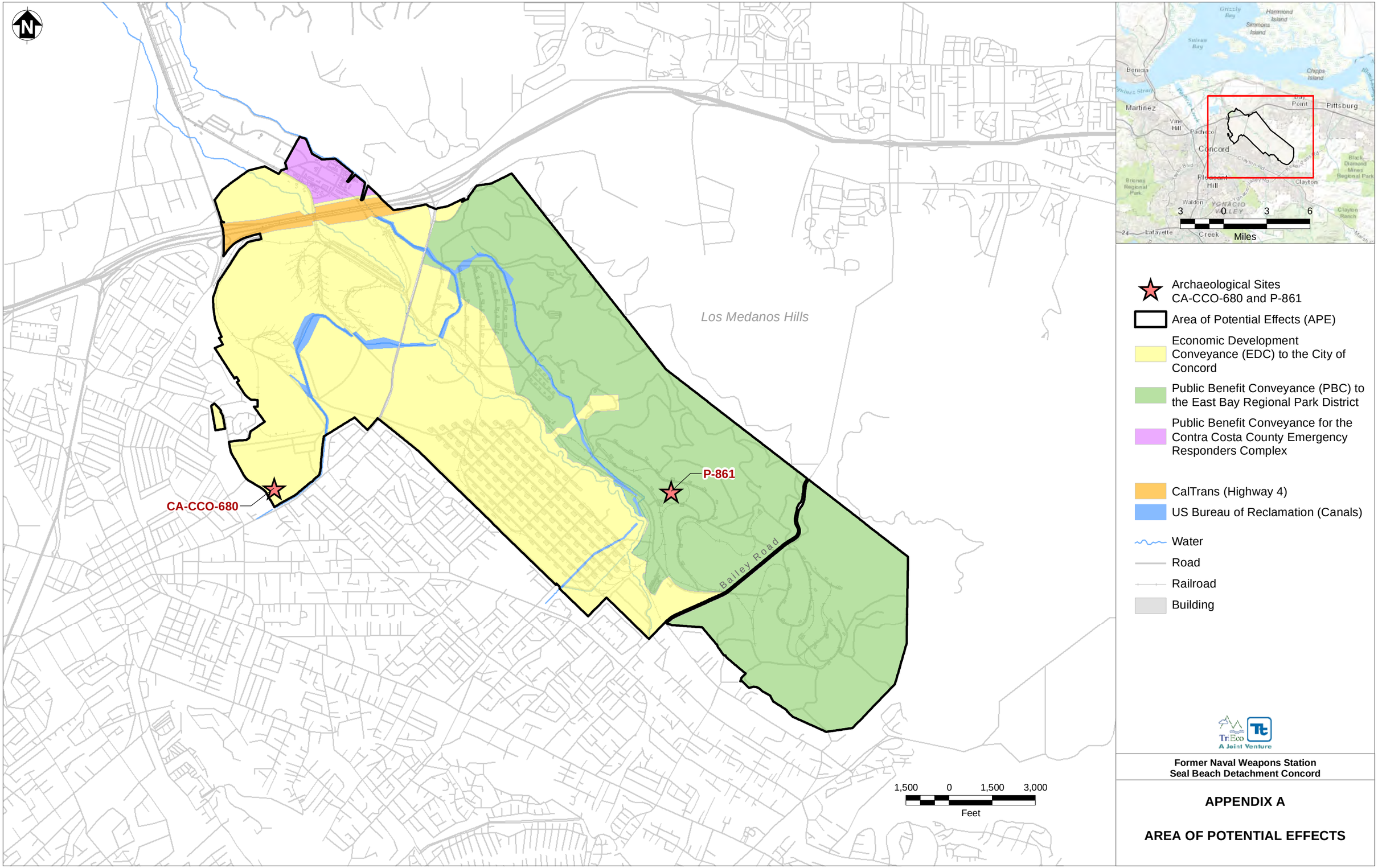
APPENDIX A:
MAP DEPICTING THE AREA OF POTENTIAL EFFECTS (APE)

APPENDIX B (CONFIDENTAL APPENDIX):

CITY OF CONCORD'S TREATMENT PLAN FOR SITE CA-CCO-680

APPENDIX C:

DEFINITIONS



Former Naval Weapons Station
Seal Beach Detachment Concord

APPENDIX A

AREA OF POTENTIAL EFFECTS

SECTION 106 MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES NAVY, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE CITY OF CONCORD, AND THE EAST BAY REGIONAL PARK DISTRICT REGARDING THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION, CONCORD, IN CONCORD, CALIFORNIA

APPENDIX B (CONFIDENTAL APPENDIX):

CITY OF CONCORD'S TREATMENT PLAN FOR SITE CA-CCO-680

SECTION 106 MEMORANDUM OF AGREEMENT BETWEEN THE UNITED STATES NAVY, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, THE CITY OF CONCORD, AND THE EAST BAY REGIONAL PARK DISTRICT REGARDING THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION, CONCORD, IN CONCORD, CALIFORNIA

APPENDIX C: DEFINITIONS

Agreement. The Memorandum of Agreement memorialized in this document. Where not directly addressed in this Agreement, the rights, obligations, and other duties of the Navy shall be determined by 36 CFR § 800 and applicable Navy regulations and guidance.

Concurring Party. A consulting party concurring in this Agreement in accordance with 36 CFR § 800.6(c)(3). Concurring Parties are the parties who sign this Agreement, other than the Signatories and Invited Signatories.

Consulting Party. A party as defined in 36 CFR § 800.2(c), composed of Signatories, Invited Signatories, and Concurring Parties, and those parties who elect not to concur in this Agreement but participated in the consultation to develop this Agreement.

Invited Signatory Party. A party that is invited by the Navy to sign this Agreement as an Invited Signatory Party shall, upon becoming a Signatory Party, have the same rights with regards to seeking amendments or termination of this Agreement as other Signatory Parties. Invited Signatory Parties are: the City of Concord (City) and East Bay Regional Park District (EBRPD).

Qualified Staff. An individual who meets the Secretary of the Interior's *Professional Qualifications Standards* at 48 Fed. Reg. 44738-44739 (Sept. 29, 1983).

Signatory Party. A party with rights and obligations with respect to this Agreement as defined in 36 CFR § 800.6(c)(1). Signatories are: Department of Navy (Navy) and the California State Historic Preservation Officer (SHPO), and those Invited Signatories signing this Agreement.

Undertaking. The transfer out of Federal ownership of approximately 5,038 acres of the Inland Area of the former Naval Weapons Station (NWS) Concord and the Navy's caretaker maintenance and pre-conveyance licensing and leasing programs.

Appendix K Response to Public Comments

This page intentionally left blank.

Erica Spinelli,
Project Manager
Concord Naval Weapons Station Project

I am a lifelong Concord resident and want to add my comment to the Plans for developing the former Concord Naval
Weapons Station site.

At this time, I recommend that we adopt the "no action alternative" as outlined below.

"Draft EIS
October 2014
2-17
2.2.5
No Action Alternative
The No Action Alternative is retention of the former NWS Concord property by the U.S. government in caretaker status. No reuse or redevelopment of the property would occur. Any current approved uses on the property would continue until remaining leases expire or the Navy decides to renew the lease. No new leases would be created under the No Action Alternative. Facilities would be maintained in accordance with the BRAC Program Management Office (PMO) Building Vacating, Facility Layaway, and Caretaker Maintenance Guidance, published in March 2007. In accordance with the
BRAC PMO Building Vacating, Facility Layaway, and Caretaker Maintenance Guidance, only conditions adversely affecting public health, the environment, and safety would be corrected in nonresidential areas. Any remedial activities underway would continue until environmental cleanup is complete."

There is no need for the People of Concord to be in a hurry to develop this site. The current plans proposed will add and additional 20,000 to 30,000 people to our City which will significantly increase traffic congestion both in and around Concord and Central Contra Costa County, tax our water infrastructure during a time of drought, and impact our quality of life here in Concord.

If this area is to be developed in the future, has anyone given any thought to develop this area for agricultural purposes (e.g- farms) or possibly re-locating Buchanan airport to this location which will open land in that part of town for developing?

Respectfully submitted,

Alan Altorfer

0001-1

0001-2

0001-1
Comment noted.

0001-2
As noted in the EIS, the purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord. The need for the proposed action is to provide the local community the opportunity for economic development and job creation.

Alternative 1 (the Preferred Alternative) is reuse of the surplus property consistent with the City of Concord's Area Plan, as adopted. As discussed in Chapter 1, the Area Plan upon which Alternative 1 is based was the result of an extensive reuse planning process that took place between 2008 and 2012 undertaken by the City of Concord, during which seven alternatives were evaluated. All seven of the alternatives were variations on mixed-use development. In accordance with NEPA, the Navy is also evaluating an alternative to the proposed action, Alternative 2 (Intensified Reuse), which is also consistent with the policies developed by the City of Concord during the reuse planning process but represents a higher intensity of use overall. Please see Chapter 2, Proposed Action and Alternatives, for further detail on how the Alternatives were developed.

From: Edi Birsan [redacted]
Sent: Saturday, November 22, 2014 6:12 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: CNWS

Support the City Plan

0002-1

Please put me on the email list for the results.

0002-2

Edi

Please take the short survey at
www.PulseOfConcord.com

Edi Birsan
[redacted]

0002-1
Comment noted.

0002-2
The mailing list has been updated per the comment.

Contra Costa County **Fire Protection District**

November 25, 2014

Director, NAVFAC BRAC PMO West,
Attn: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900
San Diego, California, 92108-4310

Dear Ms. Spinelli,

Please find our comments regarding the NWS Concord EIS below:

DEIS Alternate One
(pages ES-4, 2-31, et al.)

The Contra Costa County Fire Protection District and the Office of the Sheriff, Contra Costa County strongly supports Alternate One. Both the Fire District and the Sheriff's Office have spent hundreds of hours and approximately $50,000 in pursuit of the Public Safety Training Campus to be located on the CNWS land reuse area north of Highway 4. This training campus will not only benefit all of the residents of Contra Costa County (and the surrounding Bay Area) but will specifically benefit the City of Concord with substantial public safety resources located within the city limits. Additionally, Military Ocean Terminal Concord (located just north of the proposed training campus), will have immediate access to training and emergency resources from the Public Safety Training Campus.

In addition to the labor and resources that the Fire District and the Sheriff's Office invested in Alternate One, the residents of Concord have spent thousands of hours analyzing and reviewing many different land use scenarios to arrive at Alternate One as the best choice for the current and future residents of Concord.

The residents of the City of Concord and numerous regional stakeholders created Alternate One for the reuse of the former Concord Naval Weapons Station. The planning process culminated with the Concord City Council unanimously certifying an addendum to the Final EIR for the Concord Reuse Plan, adopting the Concord Reuse Project Area Plan (CRP Area Plan) and consistency amendments to the Concord 2030 General Plan. These actions set policy and development standards in place that ensure reuse of the base that it be developed in accordance with the recommendations of community and with the unanimous affirmation of the City Council.

Concord Facilities Fees
(Page 3-141)

The DEIS states that Concord has a Development Fee (also known as "Facilities Fees" or "Impact Fees"). Not only is the Fire District unaware of the existence of these fees, the City Clerk was not able to provide the Fire District with any city ordinance stating that these fees are in place. Additionally, the fee amounts that are stated in the DEIS are older fees that were in place until approximately 2008.

The fee structure stated in the DEIS is generally designed for single to small development projects to account for incremental growth within the Fire District. With a development project of this size, the ordinances adopted by the Fire District allow for negotiated terms in order to provide adequate fire and emergency services for new, large scale developments that will have an impact and increased demand on the current capabilities of the Fire District. It is expected that fire and emergency services will be available, and of a capacity necessary for the increased service demand, from the start of occupancy of a development or project and not when sufficient fees are collected to start to build a fire station. The Fire District would expect to have developer-funded resources available early in the occupancy process for this project.

New Fire Stations in the CNWS development area
(Page 4-116)

Several times in the DEIS there is reference to the need for two new fire stations to serve the new development. Also stated is that the old CNWS Fire Station could be used as one of the needed public safety fire stations. This Fire Station is economically and functionally obsolete. Building IA7, the Inland Firehouse was built in 1945. It cannot be cost-effectively made to provide mandated services to the development of the CNWS residential and business areas. Its location north of Highway 4 puts the firefighters and paramedics well out of established coverage area standards for locating fire stations to best serve the public.

While it is stated in the DEIS that two fire stations would be needed in the new development area, this is a minimum. With review of the density and configuration of the development in relation to existing resources, three fire stations and the associated staffing, apparatus, and equipment may be required.

3.10.3.2 Fire and Emergency Medical Services (EMS)
(page 3-142)

The information contained in the report is no longer accurate. The following information should be included as accurate based on current staffing and current EMS arrangement:

Fire protection at the former NWS Concord is primarily provided by the MOTCO Fire Department. A fire protection facility located just north of Highway 4 on the former NWS Concord was originally built to provide services to the Navy and is no longer in operation. It is no longer serviceable as a fire station.

0003-1

0003-2

0003-3

0003-4

0003-1
Reference to the Contra Costa County Fire Protection District (CCCFPD) Development Fees has been deleted from Section 3.10.3.2. New information was added to this section to clarify that the City of Concord does not currently charge fire-related fees for new development projects and to clarify that the number and location of facilities, as well as funding, is typically identified through other detailed planning processes. In addition, the references to the development fee in Sections 4.10.1.2 and 4.10.2.2 were deleted and replaced with the information provided above.

0003-2
Comment noted. The City of Concord's Area Plan anticipates that two fire stations will be needed to serve the site. If rehabilitation of the Inland Firehouse is not feasible, two new stations will be constructed. The location of the future fire stations serving the site, along with funding for the stations, will be determined by the City in conjunction with the Contra Costa County Fire District through one or more later, project-specific, local planning processes. In addition, the Army currently operates an emergency response facility at the Military Ocean Terminal Concord (MOTCO) that is anticipated to be available for mutual aid response as long as MOTCO is in operation. This information was added to and/or revised as appropriate in Sections ES.2, 2.2.3.2, Table 2.4, 3.10.3.2, and 4.10.1.2.

0003-3
Please see responses to Comments 0003-1 and 0003-2 for further detail.

0003-4
Sections 3.10.3.2 and 4.10.1.2 have been updated to reflect information obtained in personal communication with the commenter as of 2017. Figure 3.10-1 was revised to reflect the station closures cited in the comment letter.

A mutual aid agreement, signed in 1998 between the Navy and the CCCFPD, allows the NWS Concord Fire Department and CCCFPD to provide joint protection and emergency services to the region if additional resources are needed by either department.

Fire protection and EMS services in the City of Concord are provided by the CCCFPD. The CCCFPD provides fire services to nine cities, including Antioch, Clayton, Concord, Lafayette, Martinez, Pittsburg, Pleasant Hill, San Pablo, and Walnut Creek as well as several unincorporated areas of Contra Costa County, including the communities of Bay Point, Clyde, El Sobrante, Pacheco, and Port Chicago from 23 fully-staffed stations located throughout the region. The locations of these fire stations as shown in Figure 3.10-1 (CCCFPD 2013) is no longer accurate based on station closures that occurred in 2013. Currently, the 23 stations are staffed with a daily minimum of 71 personnel. During FY2014-2015, the district had a total of 323 authorized personnel (213 fire suppression, 17 chief officers, and the remainder serving in administration, fire prevention, communications, and other support services capacities) serving approximately 600,000 people, with a ratio of approximately one fire station per 26,086 people or .36 firefighting personnel per 1,000 residents. Fire station closures and staffing reductions resulted in the closure of 5 fire stations and 7 fire crews during 2011-2013. It is anticipated that as of February 1, 2015 the total on-duty staffing of the CCCFPD will be increased to 24 engine/truck companies and 2 EMS squads for a total of 78 front-line fire suppression personnel on duty every day. There are no additional increases in staffing planned.

In addition to services provided by CCCFPD personnel, the district also maintains mutual aid agreements with all fire agencies in Contra Costa County, including the East Contra Costa Fire Protection District (ECCFPD), the EBRPD, the California Department of Forestry and Fire Protection (CAL FIRE), and private industrial companies. These agreements provide the CCCFPD with emergency response assistance on an as-needed basis.

The CCCFPD provides first responder EMS services with advanced life support (ALS) paramedics on every fire apparatus. The County contracts with American Medical Response (AMR) CoCo County for paramedic ambulance 911 response and transport services. A new countywide contract for ambulance services is open for bidders and will be awarded in late 2015.

Please contact me if you have any questions.

Sincerely,

Lewis T. Broschard III
Assistant Fire Chief

CC: Undersheriff Casten
Fire Chief Carman
Director Mitchoff
Director Glover
File

0003-4 cont'd
Please see previous page for response.

0003-4
Continued

From: Ron Butler [redacted]
Sent: Wednesday, November 26, 2014 2:20 AM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: CNWS

My vote is for alternative #3 (no action)

0004-1

0004-1
Comment noted.

From: [redacted]
Sent: Saturday, November 22, 2014 8:07 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: Re: CNWS re-use

Dear Erica,
I vote:
NO ACTION ALTERNATIVE 3.... No development or reuse whatsoever. The 5,038 acres of surplus Navy land would be retained in caretaker status. Any remedial activities (removal of toxins, etc.) would continue.
Regards,
Wayne Calhoon
[redacted]

0005-1

0005-1
Comment noted.

From: Jeanne Cantwell [redacted]
Sent: Sunday, November 23, 2014 1:27 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: CNWS Development

Eric, saw the information on Claycord.com. Here's my vote

NO ACTION ALTERNATIVE 3….. No development or reuse whatsoever. The 5,038 acres of surplus Navy land would be retained in caretaker status. Any remedial activities (removal of toxins, etc.) would continue. The National Environmental Policy Act requires that this option be given! 0006-1

Regards,
Jeanne Cantwell
[redacted]

[redacted]

0006-1
Comment noted.

From: larry [redacted]
Sent: Sunday, November 23, 2014 2:08 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: Naval Weapons Station

I support alternative 3. Lawrence Cantwell

0007-1

0007-1
Comment noted.

-----Original Message-----
From: Cheung Family [redacted]
Sent: Monday, November 24, 2014 10:27 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: CNMS

No Action.

DO not want low income housing.

A Concord Resident

0008-1

0008-1
Comment noted.

From: [redacted]
Sent: Monday, November 24, 2014 4:31 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: my comments regarding NWS Concord EIS

Erica,

Thank you for the open house public meeting regarding the Draft NEWS Concord WIS.

I am in favor of the **No Action Alternative**. Already the City of Concord is planning development of thousands of units in Downtown Concord which will add approximately 10,000 people to the area. I'd like to see them complete that project before tackling the development of the Concord Naval Weapons Station area. I bought a house in Concord recently because it's a suburb but with continued development it's becoming an urban center. Those of us who would be negatively impacted would be the residents of Sun Terrace, Holbrook Heights and Dana Estates. North Concord already endures air and noise quality issues because of Highway 242, Highway 4 and Buchanan Airport. We are subjected to safety issues with the constant landing and take-off of planes overhead, as well as the fear of an explosion from the Golden Eagle refinery owned by Tesoro, Inc. It's not uncommon to smell petroleum from time to time as the refinery does "maintenance" work. The Delta breeze brings it right our way.

Please don't add to the problems of the residents of the area by adding dense housing, more cars, more noise, etc. Noise travels far in the Diablo Valley due to the terrain. It does not have many trees, and shrubs to absorb sound. The Concord NWS is more barren and sound would intensify. Your study does not take this into consideration; it only measures from the starting point which already is problematic due to lack of sound absorption. Sure a developer could put in landscape to help absorb sound but we're also in a major drought and need to think long-term.

I don't like the impact it would have on the wildlife. Although both Alternatives 1 and 2 propose up to 70 percent open space, humans would still be accessing the area. If the East Bay Regional Parks District obtains it, I'm sure paths will be created and people will be tromping through the area with their dogs, etc.. I like that it would protect the area from development but it does not necessarily protect the wildlife inhabitants. They too need space to roam.

I would like to see this area remain under caretaker status. I'm a proponent of population stabilization not continued growth. Building more houses, businesses, etc. are not the answer to this area.

Thank you for reading my comments.

Sincerely,
Suzanne Delbou

0009-1

0009-1
Comment noted.

As noted in the EIS, the purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord. The need for the proposed action is to provide the local community the opportunity for economic development and job creation.

Alternative 1 (the Preferred Alternative) is reuse of the surplus property consistent with the City of Concord's Area Plan, as adopted. As discussed in Chapter 1, the Area Plan upon which Alternative 1 is based was the result of an extensive reuse planning process that took place between 2008 and 2012 undertaken by the City of Concord, during which seven alternatives were evaluated. All seven of the alternatives were variations on mixed-use development. In accordance with NEPA, the Navy is also evaluating an alternative to the proposed action, Alternative 2 (Intensified Reuse), which is also consistent with the policies developed by the City of Concord during the reuse planning process but represents a higher intensity of use overall.

Please see the EIS for a discussion of air quality, wildlife, noise, traffic and transportation (Sections 4.4, 4.5, 4.9 and 4.11, respectively).

November 25, 2014

Director, NAVFAC BRAC PMO West
Attn: Ms. Erica Spinelli
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

Re: Draft Environmental Impact Statement for the Disposal and Reuse of the Naval Weapons Station Seal Beach Detachment Concord (NWS Concord), City of Concord, California

Dear Ms. Spinelli:

The City of Antioch would like to submit the attached letter dated October 26, 2009 originally submitted to the City of Concord during the public comment period associated with the Environmental Impact Report prepared by Concord for the Naval Weapons Station Reuse Project. The attached comments focus on transportation impacts and were jointly submitted by the East Contra Costa County Transplan Committee, a joint powers authority coordinating the transportation interests of the communities in eastern Contra Costa County.

Although the City of Concord did provide a response to comments, the City of Antioch continues to have significant concerns regarding impacts of a reuse plan on the regional transportation network. It is requested that the EIS address the concerns contained in the attached letter.

Sincerely,

Mindy Gentry
Senior Planner

cc: City Council
City Manager
Tina Wehrmeister

Community Development Department
P.O. Box 5007 • 200 H Street •Antioch, CA 94531-5007 • Tel: 925-779-7035 • Fax: 925-779-7034 • www.ci.antioch.ca.us

TRANSPLAN COMMITTEE
EAST COUNTY TRANSPORTATION PLANNING
Antioch • Brentwood • Oakley • Pittsburg • Contra Costa County
651 Pine Street -- North Wing 4TH Floor, Martinez, CA 94553-0095

October 26, 2009

Mr. Michael Wright
CNWS Reuse Project Director
City of Concord
1950 Parkside Drive
MS / 56
Concord, CA 94519

Dear Mr. Wright:

The following are comments from TRANSPLAN and its member jurisdictions on the Draft Environmental Impact Report (DEIR) for the Concord Community Reuse Project. As you may be aware, TRANSPLAN coordinates the transportation interests of the communities in eastern Contra Costa County. All of the cities in East Contra Costa and the County are members of TRANSPLAN and believe that with appropriate mitigation measures and policy revisions, as discussed below, the project will be the "world class project" the City seeks.

In considering the broad environmental concepts described in the DEIR and given the BART station area context, TRANSPLAN and its member jurisdictions support the reuse of the naval weapons station. However, we believe that only by the City of Concord working closely and collaboratively with TRANSPLAN jurisdictions to address the impacts described in the DEIR will a "world class project" be possible. We take this opportunity to thank the City for expanding the environmental review to include facilities in the TRANSPLAN region and disclosing the impacts. We hope this is the first step in a dialog which will serve to improve this exciting project.

The DEIR describes the Reuse Plan as the Local Reuse Authority's vision for redevelopment of the inland portion of the naval weapons station. The City may subsequently undertake further planning actions such as amending its General Plan and zoning ordinance to accommodate the Reuse Plan. TRANSPLAN would like to receive California Environmental Quality Act notices for any subsequent planning actions by the City.

As a result of a recommendation from a joint TRANSPAC/TRANSPLAN Technical Advisory Committee meeting held in May 2008, the Contra Costa Transportation Authority included in its 2009/2010 work plan the *State Route 4 Corridor Management Plan*. Once this planning process gets underway this plan may be an appropriate forum to discuss the impacts of the project and expand upon and further define the mitigation measures in the DEIR as discussed in more detail below.

The comments below are in sequential order as they appear in the DEIR, **not** in order of priority.

Chapter 4: Transportation

1. *Section 4.1.1: Introduction Page 4-1: "The site...is served by a network of...transit services, and bicycle and pedestrian facilities ...".* While acknowledging the language in this section is perfunctory, it underscores the fundamental mischaracterization of transit and to a lesser extent, non-motorized facilities found throughout the document. Transit service in the project vicinity is very limited; rather than a "network" it would better be characterized as "skeletal". This does not speak to the even greater limitations of the bus transit districts in developing **new service** to support the proposed project. TRANSPLAN believes that new, ongoing dedicated funding for bus service must be developed in conjunction with any development on the project site. Without this funding, future bus service to the

Staff Contact: John Cunningham: Phone: 925.335.1243 | Fax: 925.335.1300 | john.cunningham@dcd.cccounty.us | www.transplan.us

0010-1

0010-1
The City of Antioch requested that the EIS address the concerns contained in the attached comment letter from the East Contra Costa County Transportation Planning Committee (TRANSPLAN), which was originally submitted in response to publication of the City of Concord's 2009 Draft Concord Community Reuse Plan EIR (2009 EIR). The 2009 letter was resubmitted by the City of Antioch during the comment period for the Navy's 2014 DEIS. The Navy has reviewed all comments in relation to the EIS. Where a TRANSPLAN comment does not apply specifically to the 2014 DEIS, the Navy is responding to the comment in a more global sense.

This comment requests that the current state of transit funding be referenced in the EIR specifically and that the City of Concord guarantee that the necessary transit service will be present by providing funding to pay for service at the former NWS Concord. The City of Concord addressed this comment in the 2010 Response to Comments on the August 2009 Draft Revised EIR (2010 RTC). The Master Response Transportation 2 in the 2010 RTC stated: "A transit financing plan is not appropriate at this level of analysis; however, as the transit network continues to develop, the issue of transit financing will be discussed with the appropriate transit operators and will be addressed in future environmental documents. The City of Concord will pursue expected new funding opportunities collaboratively with local transit operators."

In addition, subsequent to the certification of the 2010 Final Concord Community Reuse Plan EIR, the City of Concord refined the Reuse Plan in 2012 and adopted the resulting Concord Reuse Project Area Plan (Area Plan) and amended Concord's citywide Concord 2030 General Plan to include the Area Plan. As a result of the Area Plan amendment, the Concord 2030 General Plan Transportation Section includes Policy T-1.2.3: Use impact fees, development agreements, and other funding mechanisms to construct the transportation system and support Transportation Demand Management programs on the Concord Reuse Project site, including transit services and facilities. In the 2010 Mitigation Monitoring and Reporting Program for the Concord Community Reuse Project (MMRP) the City of Concord committed to conducting a Nexus Study, required pursuant to the Mitigation Fee Act, for the entire former NWS Concord site to establish an equitable traffic impact-fee rate for each land use category to ensure that future development projects will contribute a fair share of the unfunded costs of planned improvements and mitigation measures. In the MMRP, the City of Concord also committed to requiring future developers to contribute a traffic

impact fee in accordance with the TRANSPAC Subregional Transportation Mitigation Fee Program requirements of the Central County Action Plan for Routes of Regional Significance.

As referenced in the documents above, transit funding related to the former NWS Concord site is within the City of Concord's jurisdiction. Sections 4.11.2 and 4.11.3 of the FEIS reference the City of Concord's Transportation Demand Management programs that will be supported by various funding mechanisms under the direction of the City of Concord. The EIS also references the City of Concord's Nexus Study and the traffic impact fee in accordance with the TRANSPAC Subregional Transportation Mitigation Fee Program in Section 4.11.2 and Table 7-1.

development should not be assumed, and should not be considered a mitigation strategy but rather an impact, which is the creation of a demand for bus service in face of declining (or completely absent) service. The DEIR references SB375 when describing the transportation demand management (TDM) approaches to project mitigation. Local jurisdictions from a County which has a rich history of multi-jurisdictional collaborative planning should recognize the flaw in the State's approach to addressing climate change and seek to improve upon it. Requiring or planning for transit supportive land use patterns without transit funding (or in the State's case **eliminating** transit funding) is a fundamentally flawed approach. TRANSPLAN calls on the City to be a statewide model for combating climate change and not assume that transit service will be present; but rather guarantee that the necessary transit service will be present by providing the funding to pay for service to be extended to serve the project.

With regards to *"...network of...bicycle and pedestrian facilities...":* The 2009 update to the Contra Costa County Bicycle and Pedestrian Plan shows bicycle facilities surrounding the project area and the vast majority of them are "planned" and Class III. Class IIIs are the lowest class in the Caltrans bicycle facility hierarchy offering the least benefit to the cyclist. This will not facilitate the desire to have good connectivity to existing Concord as expressed in the DEIR. TRANSPLAN is confident that a world-class bicycle network will be developed *within* the boundaries of the project. However, unless a network is developed outside the project boundaries that connect the project to greater Contra Costa, improvements in non-motorized share of mode split will not be realized and the project will not truly fulfill the goal of *"...supporting a broad range of travel choices..."*. Building on our comments in our 7/16/08 letter, prior to any development on the project site the City should commit to:

- Completing planned/proposed bicycle and trail facilities (in the Concord Trails Masterplan, the Contra Costa County Bicycle and Pedestrian Plan or the City of Concord General Plan) either within a two mile radius of the project boundaries or that otherwise serve the project,
- Closing any gaps identified in either the Contra Costa Countywide Bicycle and Pedestrian plan or the Metropolitan Transportation Commission's Regional Bikeway Network (To the extent they aren't already represented by the project's planned facilities).
- Ensuring that the connections to all BART stations in the study area (Concord, North Concord/Martinez, and Pittsburg/Bay Point) are superior and seamless. The City should commit to funding any necessary improvements at these stations necessary to support both additional and improved bicycle access. These connections should be marked on-street lanes at a minimum but, where possible, should include different facility types to accommodate a range of user abilities and comfort levels. The "blank slate" afforded by the reuse of the station area should be taken advantage of through the encouragement of walking and bicycling through the provision of superior facilities.

2. *Section 4.1.2.1: State: Page 4-2:* Implementing TDM strategies as a wholesale replacement for capacity increases as a mitigation is not supported by the City's current Growth Management policies (which includes level of service standards for basic routes and routes of regional significance) which sanction changes to the Capital Improvement Program in order to meet standards (Policy GM-1.3.3 [The City has not demonstrated that improvements are not possible or feasible nor has a request for "special circumstances" been made public]).

   TRANSPLAN believes that relying on SB375 to relieve the City of the responsibility for mitigating congestion related impacts through capacity expansion is problematic:

   a. The state has not yet released guidelines for the implementation of SB375,
   b. TRANSPLANs understanding of SB 375 is that implementation will begin, initially, with regional (Bay Area-wide) agencies. Compliance implications will eventually be seen at the local level but this is not yet the case. If this is not the case please cite specific requirements or policies which compel the City to abandon the local standards of congestion mitigation.

0010-1 cont'd
Please see previous page for response.

0010-1
Continued

0010-2
Originally submitted in response to publication of the 2009 Draft EIR, this comment requests various City of Concord commitments related to the bicycle and trail network developments outside the former NWS Concord to facilitate connectivity. The City of Concord addressed this comment in the 2010 RTC. The Master Response Transportation 1 in the 2010 RTC stated that the location and characteristics of the on-site bicycle and pedestrian network were informed by local and county-wide system plans such as the Concord Trails Master Plan and the Contra Costa Countywide Bicycle Master Plan. The Concord Trails Master Plan and the Contra Costa Countywide Bicycle Master Plan address planned pedestrian and bicycle facilities beyond project boundaries. In addition, the Concord 2030 General Plan Transportation Section includes bicycle and pedestrian principles and policies (i.e., Principle T-1.7: Provide Safe and Convenient Pedestrian Circulation, and Principle T-1.8: Provide a Safe and Comprehensive Bicycle Network). Policy T-1.7.4 states: "Prioritize pedestrian connections from new development to nearby open spaces and trails." Plans for the Concord Reuse Project include connections from the sidewalk system to a network of off-road walkways and regional park trails. Policy T-1.7.1 states: "Develop off-street pedestrian linkages, including approaches such as connections allowing pedestrians to travel through the ends of cul-de -sacs, pedestrian paths, bridges over creeks and roadways, and pedestrian underpasses, to minimize walking distance and enhance pedestrian circulation throughout the City; consider planned development on the Concord Reuse Project site when establishing such linkages." The Concord 2030 General Plan Transportation Section also states that future amendments or updates to the Countywide Plan and the City's Trails Master Plan may be needed to reflect proposals for the Concord Reuse Project site.

0010-2

0010-3

As referenced in the documents above, the bicycle and trail network outside the former NWS Concord site is within the City of Concord and Contra Costa County's jurisdictions. An overview of pedestrian and bicycle facilities as they pertain to the former NWS Concord is included in Section 3.11.6 of the FEIS and identifies the regional bicycle network in Figure 3.11-5, Bike Trails. Figure 3.11-5 has been updated to reflect the off-site bicycle network from the most recent Contra Costa Countywide Bicycle Master Plan GIS data (2010) and the City of Concord's

proposed bikeway network from Concord's Bicycle, Pedestrian & Safe Routes to Transit Plan (2016).

0010-3
Originally submitted in response to publication of the 2009 Draft EIR, this comment refers to the City of Concord's plan to implement Transportation Demand Management (TDM) strategies as a mitigation measure in the 2009 EIR. The City of Concord addressed this comment in the 2010 RTC. In response 19-7 in the 2010 RTC, the City of Concord indicated that they did not rely on SB375 or abandon local policies when developing TDM strategies as mitigation. In addition, the City stated that the requirements of Measure J and the Growth Management Element of the Concord General Plan do not preclude the use of TDM programs to address impacts. The Concord 2030 General Plan Transportation Section has also been amended to include Policy T-1.2.3: Use impact fees, development agreements, and other funding mechanisms to construct the transportation system and support Transportation Demand Management programs on the Concord Reuse Project site, including transit services and facilities.

Sections 4.11.2 and 4.11.3 of the Final EIS reference the City of Concord's TDM programs. Table 7-1 has been revised to incorporate additional detail on TDM strategies and the coordination with affected jurisdictions that will be required as part of the City of Concord's adopted MMRP process addressing physical roadway improvements.

c. What is the legal requirement for the City to change the course of an existing environmental review to comply with recently adopted state legislation? This questionable responsibility (see comment above) taken on by the City burdens affected jurisdictions in that it requires the re-interpretation of document under this new statutory light - the implementation of which, at this point, is speculative.

d. Abandoning long held local policies that "*...ensure new growth provides adequate facilities*...." and "*pay its own way*" (page 4-1 of the City of Concord General Plan) by relying on State legislation which the State itself has yet to agree on how to implement (the Air Resource Board's Regional Technical Advisory Committee is just now finishing it's advisory work on this very topic) is premature at best.

e. Caltrans, in their 7/22/08 comment letter, stated that the forecasted levels of service on state facilities are "*unacceptable*" and requested that coordination regarding mitigation measures take place. In light of SB375, has Caltrans retracted this requirement and provided an opinion regarding the intent of the City to rely on TDM measures to ensure adequate performance on its facilities?

f. Notwithstanding the uncertain policy basis which the City is relying on to use TDM strategies as a mitigation measure, substantially more specificity on the character of the TDM program must be provided, and the effect of the program must be quantified. Without the specificity or quantification they cannot be considered feasible, effective or enforceable as required under the California Environmental Quality Act.

In order for TDM strategies to have a meaningful effect on VMT, congestion or other automobile related impact, an extraordinary effort will have to be made on the part of the City. This level of effort is consistent with the goal of a "world class project" espoused in the DEIR, Comments regarding what these efforts can be found throughout this letter.

3. *Section 4.1.2.3: Local: Page 4-2*: Contrary to the information in this section, the EIR is not consistent with the technical procedures which state:

> *The traffic impact analysis must include, as a minimum, consideration of the following scenarios...Existing conditions plus approved development with mitigations plus the project...*

The *Existing Conditions, 2030 No Project,* and *Preferred Alternative* and *Concentration and Conservation Alternative in the year 2030* are useful and serve specific purposes in the environmental review. Excluding the existing plus project scenario not only departs from the technical procedures and serves to diminish the impacts of the project by isolating the analysis of the project from the current, familiar traffic context but conflicts with the consistent theme throughout the document that a conservative approach to identifying impacts is being used.

4. *Section 4.1.2.3: Local: Page 4-4:* The infill opportunity zone policies cited in the document include the following limitations which may apply to the subject project:

> *A city or county may not designate an infill opportunity zone after December 31, 2009.*
>
> *If no development project is completed within an infill opportunity zone by the time limit imposed by this subdivision* (4 years)*, the infill opportunity zone shall automatically terminate.*

If the City has made the necessary designations please provide documentation establishing this. How will the City comply with the development time limits (4 years) in the policies?

5. *Section 4.1.3.1: Freeways and Ramps: Page 4-4:* Caltrans, MTC and the Contra Costa Transportation Authority are in the process of developing a Corridor Systems Management Plan (CSMP) for State

0010-3 cont'd
Please see previous page for response.

0010-3
Continued

0010-4
Originally submitted in response to publication of the 2009 Draft EIR, this comment refers to the 2009 EIR and Contra Costa Transportation Authority's (CCTA's) technical procedures related to transportation analyses. Similar to the analysis scenarios studied in the 2009 EIR, the DEIS studied "reasonable" scenarios for the Proposed Action. Three scenarios were analyzed in the DEIS, including year 2040 conditions plus Alternative 1; year 2040 conditions plus Alternative 2; and the No Action Alternative. Per NEPA, the approach to the EIS (and the TIS) applied reasonable methodologies to study the Proposed Action, which is the development program for the entire NWS site that would occur over a 20-year buildout horizon, such that an "existing plus project scenario" was not considered a reasonable future condition for the EIS analysis. Incremental growth of the project will occur over 20 years and, given the long timeline, growth in the population and employment is expected. Therefore, analysis of the Proposed Action includes background traffic. While this approach does not present a "familiar traffic context" of existing conditions from which the impacts of the full project can be isolated, it provides a reasonable scenario to capture the potential effects of the Proposed Action on the transportation system for a programmatic EIS.

0010-4

0010-5
This comment references infill opportunity zone policies cited in the 2009 EIR. The City of Concord addressed this comment in the 2010 RTC, indicating that the reference to Infill Opportunity Zone was removed in the Final EIR because a city or county cannot designate an Infill Opportunity Zone by law after December 31, 2009. As a result, Infill Opportunity Zone policies are not referenced in the Navy's EIS.

0010-5

0010-6
The intent of this comment is to ensure the forecasted volumes used in the 2009 EIS for State Route 4 were consistent with that in the State Route 4 Corridor Systems Management Plan (CSMP). The comment requested 2030 forecasted freeway volumes be reported so that consistency between the two reports could be determined. The City of Concord addressed this comment in the 2010 RTC. The City of Concord indicated that

0010-6

the requested freeway volumes were provided in Appendix 4E of the Final EIR.

The CSMP was completed in October 2010; therefore, this comment does not directly apply to the Navy's EIS. In the context of the Navy's EIS, traffic counts from the SR4/SR242 Ramp Metering Implementation Study were used, and forecasted volumes were derived from the updated CCTA travel demand model, which incorporated recommendations and improvements from the CSMP to the extent those improvements were funded and included in the latest Countywide Transportation Plan. Therefore, the DEIS utilized the most recent count data and forecasting model to develop the forecasted volumes used in the transportation analysis.

Route 4. TRANSPLAN Staff, in attempting to determine the consistency of the DEIR with the CSMP, found no common metric between the two. Please either provide the 2030 forecasted freeway volumes so that staff may validate the figures, or include a comparison in the next iteration of environmental report.

6. *Page 4-30: Roadway Segments:* TRANSPLAN has included in the *East County Action Plan for Routes of Regional Significance* language[1] establishing the intent to readdress the status of Bailey Road with the next update to the Action Plan. Subsequent planning by the City should anticipate that at the time of development, Bailey Road will be a designated Route of Regional Significance.

7. *4.1.3.3: Traffic Service Objectives: Page 4-33:* The sentence "*The target is meant to be applied to a corridor; while individual segments may violate the target DI*" is not consistent with the East County Action Plan which, in the context of Delay Index, refers to "segments" not "corridors". The June 20, 2000 version of the East County Action Plan which was in force at the time the Notice of Preparation was developed, does not provide for a "corridor" analysis.

8. *4.1.4: Transit: Page 4-35: "The transit system serving Contra Costa County is well-developed in urbanized areas...":* The DEIR must disclose relevant information regarding the current state of transit funding in order for this EIR to be considered complete. This is addressed in more detail throughout this letter.

9. *4.3 Potential Transportation Impacts: Page 4-49:* See comment# 3 above. The exclusion of the "Existing Plus Project" (EPP) scenario was discussed with the TRANSPLAN Technical Advisory Committee (TAC) meeting on 9/15/09, in addition to the earlier comment on regarding analysis scenarios. The DEIR includes a long explanation of why its evaluation of potential project impacts varies from "standard practice" so the DEIR will not "grossly overstate actual impacts". Yet, the DEIR's approach is characterized as being "very conservative, and tends to overstate actual impacts of the alternatives compared to what a pure 'Existing plus Project' approach would yield." The TAC is somewhat confused by the DEIR's use of scenarios to determine potential transportation impacts. We request that TRANSPLAN be consulted in subsequent studies that will determine the project's contribution to improvements that mitigate its impact on regional routes.

10. *4.3.3 Model Forecast Methodology: Page 54:* Please disclose what the results of the model runs were in terms of the (effective) trip generation rates and mode splits for all land use types in the proposed project. In addition, please provide details regarding the adjustments to the model to improve the transit sensitivity summarized at the top of page 4-54. The observed results of those edits (change in mode split, BART access mode, etc) should be disclosed in order to determine the reasonableness of the changes. Given that the impacts (and corresponding scale of mitigation necessitated by said impacts) hinge largely on these figures, the City should be prepared to reevaluate the mitigation measures if higher rates are warranted. New impacts could be identified and existing impacts exacerbated if this is the case. Reiterating points made in more detail elsewhere in this letter and in TRANSPLAN's 7/16/08 comment letter, that adequate bus service and/or BART capacity will exist in the future has not been verified. Detail on how the mode split was arrived at should be provided. Was it developed using model output or was a certain mode split assumed (based on comparable areas) and the figures extrapolated from this assumption?

11. *4.3.3.2 On-Site Transit Network: Page 4-54:* Please provide letters of commitment from County Connection and Tri Delta Transit that validate the transit service suggested in this section. In addition, adequate capacity for BART in the anticipated timeframe of project needs to be established (See comment #16). Without this information, the transit mode share assumed in the EIR may be infeasible and the proposed service may not be attractive to future residents and workers housed by the project.

[1] *"With future updates to the East County Action Plan, TRANSPLAN will work with TRANSPAC to consider the utility of Bailey Road and the need to designate the section from West Leland Road to the TRANSPAC region a Route of Regional Significance."*

0010-6 cont'd
Please see previous page for response.

0010-6
Continued

0010-7

0010-7 TRANSPLAN's comment letter was originally submitted in response to publication of the 2009 EIR. The 2009 letter was resubmitted by the City of Antioch during the comment period for the Navy's 2014 DEIS.

0010-8

At the time when the analysis started for the 2009 Reuse Plan EIR, TRANSPAC and TRANSPLAN had adopted Action Plans for Routes of Regional Significance (RRS) that included several

0010-9 Transportation Service Objectives (TSOs) to measure the effectiveness of regional freeways, arterial routes, and transit use. The TSOs for East and Central County included the delay index, level of service (LOS), average travel speed, average

0010-10 vehicle occupancy, and transit ridership, which are described in EIR Section 4.1.3.4 and Table 4-14. However, prior to completion of the Final EIR, Central and East Contra Costa County had drafted Action Plans, which replaced the TSOs with Multi-modal Transportation Service Objectives (MTSOs). Both TSOs and MTSOs are presented in the Final EIR.

At the time of preparation of the TIS for the Navy's EIS, Bailey Road was considered an RRS (see FEIS Appendix H, Sections

0010-11 3.1.2 and 4.2) and as such the MTSOs for Bailey Road were applied, consistent with the East County Action Plan for Routes of Regional Significance (2009). To the extent information was available from the 2014 Action Plan, which was still in draft form when the TIS analysis was conducted, updated MTSOs were included. MTSOs are listed in Table 4.11-7 of the EIS; the analysis results are discussed in Sections 4.11.2 and 4.11.3.

0010-8

0010-12 The comment is disputing the approach to calculating the Delay Index as one of the TSOs from the June 20, 2000 version of the East County Action Plan. By the time the EIS analysis was conducted, the 2000 version of the East County Action Plan was no longer applicable. During the time when the EIR was developed, Central and East Contra Costa County had prepared draft Action Plans for Routes of Regional Significance (RRS), which replace the TSOs with MTSOs from the 2009 version of the Action Plan. Therefore, MTSOs were applied in the DEIS. MTSOs are listed in DEIS Table 4.11-7; the analysis results are discussed in sections 4.11.2 and 4.11.3. The Delay Index

represents the ratio of congested travel time to uncongested travel time between two points and can be applied on an individual segment basis or to an entire corridor. For the DEIS, the Delay Index is reported for the corridor, which is similar to what is reported in the 2009 Action Plan (as well as the draft 2014 Action Plan). Additional details on the results of the MTSOs are presented in Tables 26 and 27 of the TIS (included as Appendix H of the FEIS).

0010-9
Please see response to Comment 10-1 for information regarding transit funding.

0010-10
Please see response to Comment 10-4 for information regarding the DEIS analysis scenarios and Comment 24-14 for information regarding the EIS and transportation mitigation measures. The City of Concord will coordinate with affected jurisdictions on specific mitigation measures prior to the approval of a development plan or discretionary entitlement at the former NWS Concord site.

0010-11
This comment is referring to the transportation model methodology used in the 2009 EIR. The concern expressed in the comment about specific adjustments made to the model used for the 2009 Draft Reuse Plan EIR transportation analysis is not relevant to the EIS analysis. The DEIS transportation analysis used the CCTA Countywide Model, which updated the earlier model to include adjustments to improve the transit sensitivity. This is described in Section 4.1 of the TIS. Since the DEIS transportation analysis utilized a travel demand model, trip generation and mode split is not available by land use types but, rather, traffic analysis zones (TAZs). Multiple land use types are included in each TAZ. This approach allowed the DEIS transportation analysis to better capture the interactions between the trip-making patterns of the project land uses and the surrounding land uses and transportation system. Additional details on this approach are provided in the TIS Section 4.1. Mode share is presented in Table 19 and described in Section 4.1. A summary of the EIS transportation analysis methodology, including trip generation, trip distribution and travel mode, is presented in Section 4.11.1 of the FEIS.

0010-12
Originally submitted in response to publication of the 2009 Draft EIR, this comment refers to the transit service commitment related to the 2009 alternatives and adequate capacity for BART in the timeframe of the project. See response to Comment 10-1 for information regarding City of Concord transit funding commitments. The DEIS transportation analysis used the updated CCTA Countywide Model, which includes transit services and facilities, such as BART, County Connection, and Tri Delta Transit. Using the updated CCTA model provided the best available data at the time of the DEIS since capacity assumptions, frequency of service, bus routes and stops are embedded in the model. The on-site roadway network serving the project site is described in Figures 1 and 2 in the TIS. New transit service to the North Concord BART station serving the project site was assumed in the CCTA model, based on the bus service assumed in the EIR. For the North Concord BART station, the Proposed Action provides new residences and jobs in close proximity to the station, thus providing increased ridership, particularly in the reverse-commute direction, which is not as constrained as the peak commute direction, e.g., toward Oakland and San Francisco in the morning and from Oakland and San Francisco in the evening. The CCTA model included the East Contra Costa BART Extension (eBART) as well as a new bus line to serve the project site.

To address system and station capacity issues, particularly, in the San Francisco and Oakland stations, BART, in collaboration with the Metropolitan Transportation Commission (MTC), the San Francisco Municipal Transportation Agency (SFMTA), the San Francisco County Transportation Authority (SFCTA), and the Alameda-Contra Costa Transit District (AC Transit) are conducting the Core Capacity Study. In addition, BART has prepared the FY15-FY24 Short Range Transit Plan and Capital Improvement Program, which addresses capital and operating needs.

12. *4.3.3.3 On-Site Bicycle and Pedestrian Network: Page 4-63:* Consistent with comments provided in TRANSPLAN's 7/16/08 comment letter, excluding Class II and III facilities at this point in the project development process is understandable. However, the Reuse Plan should include a policy statement establishing that a dense, well-connected bikeway network will be produced at some point further in the project development process.

13. *4.3.4 Assumptions about Potential Impacts with Respect to Transportation: Page 4-63:* Reiterating comment #2 above, relying exclusively on TDM measures to mitigate transportation impacts is a significant departure from local practice and is not supported in current local, regional and state policies. TRANSPLAN is committed to addressing the goals of SB 375, at the appropriate time and in the appropriate manner. The decision to take this approach by the City is premature in the absence of locally relevant, adopted policies. As indicated in comment 2f, an extraordinary effort on the part of the City to ensure the effectiveness of TDM strategies may result in a measurable change in travel behavior but does not justify disposing of any capacity improvement to mitigate the project's impacts to regional routes.

14. *Figure 4-12, 4-13: Page 4-65, 4-67:* In subsequent planning efforts the City should consider the following comments on the non-motorized network from our TRANSPLAN members. The existing Class I trail does on Port Chicago Highway does not go north of State Route 4. This map should show this section of trail as proposed. The following facilities should be added to the non-motorized network depicted in these figures (in addition to the improvements discussed on comment #1):

    1. An extension of the existing Class I facility on Willow Pass Road to Highway 4 and the planned Class I and II on Evora Road. [there already is a Class I parallel and to the east of WP Rd]
    2. Class II facilities on Arnold Industrial Way between Port Chicago Highway and Solano Way and connections to these facilities from the project site. [the map has no Class II routes. Are they shown on another map?]
    3. Class II facilities on Bailey Road to connect to the planned Class II facilities in unincorporated County and the existing Class II in the City of Pittsburg in the north and connect to the trail in Newhall Community Park.
    4. Class II on Kirker Pass Road to connect to the planned Class II in the unincorporated County in the north and the existing Class II on Clayton Road.

15. *4.3.4 Assumptions about Potential Impacts with Respect to Transportation: Page 4-63:* Project #4 is described as "Evora Road: Widen from Willow Pass to Pomo Street and extend to Port Chicago Highway". Figure 4.14 is not consistent with this project description. Please clarify whether the extension to Port Chicago Highway is No-Project condition or part of the project. TRANPLAN believes this connection is critically needed to provide an alternate route to State Route 4.

16. *4.3.5.1 Transit Ridership Forecasts: Page 4-72:* Please provide some assurance that bus service will be available in the future and that BART will have sufficient capacity to serve the project and not compromise ridership further down the BART line.

    After the last Transportation Advisory Group meeting in 2008 there were questions as to whether or not BART had the capacity to carry the increased riders. The outcome of these discussions was that there were to be additional analysis and meetings to address BART capacity. No analysis results or capacity information has been distributed or can be found in the EIR. Please provide the results of this additional analysis.

    Regarding bus transit, the lack of relevant information related to the state of transit funding will compromise the LRA's ability to make an informed decision on this project. There is substantial evidence that there will not be adequate resources in the future to provide the level of bus service assumed in the EIR.

Staff Contact: John Cunningham; Phone: 925.335.1243 | Fax: 925.335.1300 | john.cunningham@dcd.cccounty.us www.transplan.us

0010-13

Originally submitted in response to publication of the 2009 Draft EIR, this comment indicates that the Reuse Plan should include a policy statement related to the development of a dense, well-connected bikeway network on the former NWS Concord site. The City of Concord addressed this comment in the 2010 RTC. The Master Response Transportation 1 in the 2010 RTC explained the Draft Reuse Plan EIR's approach to analyzing pedestrian and related future planning efforts.

The City of Concord refined the Reuse Plan in 2012 and adopted the resulting Area Plan. The Area Plan includes policies related to developing a well-connected bicycle network (i.e., Policy T-1.2: Bicycle and Pedestrian Connections, and Policy T-1.5: Bicycle and Pedestrian Safety). Alternative 1, as identified in the Navy's 2014 DEIS, is the reuse of the former NWS Concord in a manner consistent with the Area Plan.

0010-14

Originally submitted in response to publication of the 2009 Draft EIR, this comment refers to the City of Concord's plan to implement TDM strategies as a mitigation measure in the 2009 Draft Reuse Plan EIR. Please see the response to Comment 24-14 for information regarding the EIS and transportation mitigation measures.

0010-15

This comment references modifications to figures in the 2009 EIR. A data request for bicycle network GIS data was submitted to the Contra Costa Transportation Authority in September 2015 and the City of Concord in March 2017 to ensure the most recent data was incorporated in the FEIS. FEIS Figure 3.11-5, Bike Trails, was revised to depict the off-site bicycle network from the most recent Contra Costa Countywide Bicycle Master Plan GIS data (completed in 2010) and the City of Concord's proposed bikeway network from Concord's Bicycle, Pedestrian & Safe Routes to Transit Plan (completed in 2016). Both existing and proposed regional countywide routes and jurisdictional routes based on the local bike plans of incorporated towns and cities are depicted in Figure 3.11-5.

0010-16

The Evora Road project "Widen from Willow Pass to Pomo

Street" is part of the improvements assumed to be in place in the updated CCTA model used for the Navy's 2014 DEIS. The extension of Evora Road to Port Chicago Highway was part of the roadway network for Alternative 1 and 2, as shown in Figures 1 and 2 in the TIS.

0010-17
Please see response to Comment 10-1 for information regarding transit funding and Comment 10-12 for information regarding BART capacity.

TRANSPLAN does not necessarily see this as a flaw; examples of mechanisms (County Service Area[2]) to fund transit exist in the County. These mechanisms could also be used to purchase TransLink passes for residents of the development or be dedicated to funding quality bus service as is assumed in the DEIR. Both of these actions are likely to substantially increase transit mode share, demonstrate the City's commitment to implementing mitigation measures, ensuring TDM measures are feasible and effective, and be consistent with the goal of creating a world class project. (see comment 2f).

17. *4.3.5.3 Summary of Transportation Impacts: Page 4-88:* The information on this page (*"Common strategies to limit impacts....include...new roadway infrastructure...")* conflicts with other areas of the document which state that *"the City...will implement transportation demand management strategies to mitigate ...rather than mitigating impacts through increased capacity..."*. The next version of the EIR should fulfill the project sponsors obligation[3] to evaluate feasible mitigations measures and present a reasonable plan[4] for mitigation. These responsibilities exist regardless of pending environmental policies or any future action by the LRA. The Contra Costa Countywide Transportation Plan can provide a starting point of potentially feasible and effective measure to mitigation the project's impacts on regional routes. Appendix B of that plan identifies State Route 4/I-680 interchange improvements and connection of State Route 4 carpool lanes with the I-680 carpool lanes that could mitigate the project's impact on regional routes. Some of these improvements would also support the TDM goals of the Reuse Plan. It is the hope of TRANSPLAN jurisdictions that this list would be developed in the multi-jurisdictional collaborative tradition that has served Contra Costa County so well.

18. *4.3.6.1 Potentially Significant Project-Specific Transportation Impacts of the Preferred Alternative That Worsen the Future Condition and Remain Significant after Mitigation: Page 4-107: Impact Transportation 1: Mitigation Measures (MM) 1 and 2*: In addition to determining fair share cost of planned improvements the project sponsor should work with Caltrans to determine what additional feasible mitigation measures are possible and apply a fair share cost to those improvements as well.

19. *Page 4-111: Impact Transportation 4: Locations 7, 8, 9, 10 and 11, Page 4-116: Impact Transportation 05, Page 4-131: Impact Transportation 26, Page 4-123: Impact Transportation 12, Page 4-135: Impact Transportation 29, Page 4-140: Impact Transportation 29, Page 4-145: Impact Transportation 36, Page 4-149: Impact Transportation 39:* The project sponsor should work with affected jurisdictions to identify ***additional*** mitigation measures. This would facilitate a reasonable mitigation plan which would further (in addition to planned improvements) reduce the impact of the project. Given the lack of an adopted plan for the study area, combined with the likely build-out timeframe of the project, it is unreasonable to assume that capital improvements would be currently planned that would provide mitigation for the as-of-yet-adopted plan ***and*** the additional background traffic and rely on that absence of improvements to seek relief through measures other than capacity increasing. That valid mitigation measures are not currently planned does not preclude the project sponsor from developing them. Valid mitigation measures, those that exist in current plans, can be found in the *Countywide Comprehensive Transportation Plan* and the *Corridor Systems Management Plan*. Consistent with the proposal to rely on existing planned projects, please evaluate relevant projects from these plans and include them in the yet to be developed funding plan.

20. *Page 4-123: Mitigation Measure Transportation 11, Intersection Impact Location 5*: Regarding the study referenced in this section, there are two planning efforts under way, one for Bailey from Leland Avenue to the freeway interchange, and one from the freeway interchange north to Willow Pass Road. The City of Pittsburg is the lead agency for the former, and Contra Costa County is the lead agency for the latter. The City and the County are coordinating these efforts with each other. Participants include Caltrans, BART, Tri Delta Transit and the East Bay Regional Park District. The goal of these planning efforts is to

[2] County Service Area T-1 in the Alamo Creek subdivision provides funding to provide transit service to the development. The annual assessment ranges from $318 to $230 depending on housing type. More information is available from the Contra Costa County Public Works Department: Hillary Heard: 313-2022

[3] Public Resources Code section 21002

[4] Save Our Peninsula Committee v. Monterey County Board of Supervisors (2001)

0010-18

Originally submitted in response to publication of the 2009 Draft EIR, this comment refers to the City of Concord's plan to implement TDM strategies as a mitigation measure in the 2009 EIR. Please see response to Comment 24-14 for information regarding the EIS and transportation mitigation measures.

0010-18 0010-19

Originally submitted in response to publication of the 2009 Draft EIR, this comment refers to the City of Concord's plan to implement TDM strategies as a mitigation measure in the 2009 Draft Reuse Plan EIR and coordination with Caltrans to determine additional feasible mitigation measures and their fair share cost. As indicated in the response to Comment 24-14, Table 7-1 of the FEIS has been revised to incorporate additional detail on TDM strategies and the coordination with affected jurisdictions that will be required as part of the City of Concord's adopted MMRP process addressing physical roadway improvements.

0010-19

In relation to determining a fair share cost for improvements, the City of Concord committed in the 2010 MMRP to conducting a

0010-20 "Nexus Study, required pursuant to the Mitigation Fee Act, for the entire former NWS Concord site to establish an equitable traffic impact-fee rate for each land use category to ensure that future development projects will contribute a fair share of the unfunded costs of planned improvements and mitigation measures determined by the City of Concord in consultation with the affected jurisdictions." Therefore, the City of Concord will work cooperatively with affected jurisdictions, including Caltrans, to determine feasible improvements as part of the Nexus Study. In the MMRP, the City of Concord also committed to requiring future developers to "contribute a traffic-impact fee in accordance with the TRANSPAC Subregional Transportation Mitigation Fee Program requirements of the Central County Action Plan for

0010-21 Routes of Regional Significance" as well as other funding agreements, such as the Bailey Road Traffic Mitigation Measures Inter-Agency Funding Agreement and the East Central Traffic Management Study. The DEIS references the City of Concord's Nexus Study and the traffic-impact fee in accordance with the TRANSPAC Subregional Transportation Mitigation Fee Program in Section 4.11.2 and Table 7-1.

0010-20

Originally submitted in response to publication of the 2009 Draft

EIR, this comment refers to the City of Concord's plan to implement TDM strategies as a mitigation measure in the 2009 Draft Reuse Plan EIR. Please see response to Comment 24-14 for information regarding the EIS and transportation mitigation measures.

0010-21
The City of Concord noted this comment in the 2010 RTC and added a sentence to Mitigation Measure Transportation 11, Intersection Impact Location 5 in the Final EIR: "The improvements, however, are intended to improve the pedestrian, bicycle, and aesthetic environment along Bailey Road; no increase in vehicle capacity is planned."

The planning efforts mentioned in the comment do not directly apply to the Navy's EIS since they pertain to portions of Bailey Road located outside of the former NWS Concord site and address streetscape improvements rather than capacity increases for motor vehicles. However, the DEIS provides an overview of pedestrian and bicycle facilities as they pertain to the former NWS Concord (see Section 3.11.6) and identifies the regional bicycle network in Figure 3.11-3, Bike Trails. This figure has been renumbered to Figure 3.11-5 in the FEIS and updated to reflect the off-site bicycle network from the most recent Contra Costa Countywide Bicycle Master Plan GIS data (completed in 2010) and the City of Concord's proposed bikeway network from Concord's Bicycle, Pedestrian & Safe Routes to Transit Plan (completed in 2016). FEIS Figure 3.11-5 includes bicycle facilities along Bailey Road.

improve the pedestrian, bicycling and aesthetic environment along Bailey Road. They are not intended to increase capacity for motor vehicles.

21. *Page 4-132: Impact Transportation 27:* That responsible agencies currently do not have projects identified to mitigate the impact of the proposed project (the build-out of which likely exceeds the horizon year of most capital improvement plans if not general plans) does not free the project sponsor from the responsibility to evaluate feasible mitigation measures and a reasonable implementation plan. This responsibility exists whether the City decides to fund the mitigation measures or not. The project sponsor should work with the affected jurisdictions, as was suggested with other identified impacts, to develop additional mitigation measures.

22. *Page 4-147: Impact Transportation 38:* Location 5: TRANSPLAN is encouraged that the City of Concord will work cooperatively with the City of Pittsburg in developing appropriate improvements. Please be aware however that the Pittsburg/Bay Point BART Station Pedestrian/Bicycle Access Plan will not be examining the types of improvements necessary to mitigation the identified impact. A separate study or process will be necessary to determine appropriate improvements.

23. *Page 4-155: Impact Transportation 49*: As stated in TRANSPLAN's 7/16/08 comment letter and elsewhere in this letter, the statement "Transit service will increase..." cannot be accurately made in the absence of an identified ***additional,*** ongoing transit operations funding mechanism or, at a minimum, a policy statement requiring the development of such a funding stream as a requirement of any development. Absent this identified funding, any benefits and increases in service need to be re-characterized as an impact (creation of demand) in addition to identified mitigations. The City's approach would be analogous to stating that automobile access would be provided by way of a roadway in the absence of any plans or funding to construct it. Again, there are examples of mechanisms to fund transit in conjunction with development. Please see comment 2f. The unique timing of this project, a blank slate for a new BART station area while concerns about greenhouse gas emissions abound, is a rare opportunity which should not be squandered. The City should seize the chance to innovate by providing transit supportive land development patterns and ***while*** ensuring quality transit service will be present to serve the project.

24. *Page 4-155: Impact Transportation 50*: Again, without a plan that connects the internal non-motorized network to an external (adequate) non-motorized network the project, at best, will create an unmet demand for non-motorized facilities. At worse it will create an unsafe situation by having cyclists connect to facilities not suited to bicycle use.

Staff Contact: John Cunningham: Phone: 925.335.1243 Fax: 925.335.1300 john.cunningham@dcd.cccounty.us | www.transplan.us

0010-22

Originally submitted in response to publication of the 2009 Draft EIR, this comment refers to the City of Concord's plan to implement TDM strategies as a mitigation measure in the 2009 Draft Reuse Plan EIR. Please see the response to Comment 24-14 for information regarding the EIS and transportation mitigation measures.

0010-23

Originally submitted in response to publication of the 2009 Draft EIR, this comment refers to the mitigation measures proposed in the 2009 EIR at the intersection of Bailey Road and SR 4 eastbound ramps. As indicated in Table 4-11.9 of the Navy's FEIS, physical improvement measures the City of Concord may consider in accordance with the adopted MMRP at the intersection of Bailey Road and SR 4 eastbound ramps include:

-Convert the EB through lane to an exclusive left turn lane from the BART access road; and widen the SR-4 EB off-ramp to add a right-turn lane in order to provide one left-turn lane, one shared left through lane, and two right-turn lanes on the WB approach;

-Replace one of the SB left-turn lanes with one left turn lane, two through lanes, and one right-turn lane on the SB approach; and

-Modify the traffic signal to provide protected left-turn phasing.

0010-24

Please see response to Comment 10-1 for information regarding transit funding.

0010-25

Please see response to Comment 10-2 for information regarding the connections between the internal and external non-motorized network.

Signed,

City of Antioch

X_____

Title:

Attest: _____

Date: _____

City of Brentwood

X_____

Title:

Attest: _____

Date: _____

City of Oakley

X_____

Title: Mayor

Attest: _____

Date: 10/14/09

City of Pittsburg

X_____

Title:

Attest: _____

Date: _____

TRANSPLAN

X_____

Federal D. Glover, Chair

Attest: _____

Date: _____

Copy:
TRANSPLAN TAC
TRANSPAC
D. Heitman, BART
Anne Muzzini: County Connection

Signed,

City of Antioch

X_____

Title:

Attest: _____

Date: _____

City of Brentwood

X_____

Title:

Attest: _____

Date: _____

City of Oakley

X_____

Title:

Attest: _____

Date: _____

City of Pittsburg

X Nancy Parent

Title: Mayor

Attest: Alice E. Evenson

Date: 10/20/09

TRANSPLAN

X_____

Federal D. Glover, Chair

Attest: _____

Date: _____

Copy:
TRANSPLAN TAC
TRANSPAC
D. Heitman, BART
Anne Muzzini: County Connection

Signed,

City of Antioch

X_____

Title:

Attest: _____

Date: _____

City of Brentwood

X_____

Robert Taylor, Mayor

Attest: _____

Margaret Wimberly, City Clerk

Date: 10/13/09

City of Oakley

X_____

Title:

Attest: _____

Date: _____

City of Pittsburg

X_____

Title:

Attest: _____

Date: _____

TRANSPLAN

X_____

Federal D. Glover, Chair

Attest: _____

Date: 10/20/09

Copy:
TRANSPLAN TAC
TRANSPAC
D. Heitman, BART
Anne Muzzini: County Connection

C:\Transportation Committee ... 10-09

Signed,

City of Antioch

X James D Davis

Title: Mayor

Attest: Arlene Martin

Date: October 13, 2009

City of Brentwood

X_____

Title:

Attest: _____

Date: _____

City of Oakley

X_____

Title:

Attest: _____

Date: _____

City of Pittsburg

X_____

Title:

Attest: _____

Date: _____

TRANSPLAN

X_____

Federal D. Glover, Chair

Attest: _____

Date: _____

Copy:
TRANSPLAN TAC
TRANSPAC
D. Heitman, BART
Anne Muzzini: County Connection

-----Original Message-----
From: Vitulano, Karen [mailto:Vitulano.Karen@epa.gov]
Sent: Monday, November 24, 2014 3:10 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: EPA comments on Former Concord NWS Disposal and Reuse DEIS

Erica - Please see attached EPA's comments on the subject project. Please let me know if you have any questions or wish to discuss.

Will you need a hard copy of the letter or will this suffice?

Sincerely-

~

Karen Vitulano
U.S. Environmental Protection Agency, Region 9 Environmental Review Section

75 Hawthorne St. ENF-4-2
San Francisco, CA 94105
PHONE 415-947-4178
FAX 415-947-8026

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

November 24, 2014

Ms. Erica Spinelli
NAVFAC BRAC PMO West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

Subject: Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California (CEQ# 20140289)

Dear Ms. Spinelli:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our detailed comments are enclosed.

The Draft Environmental Impact Statement (DEIS) assesses the impacts of the Navy's disposal of surplus property at the former Naval Weapons Station Seal Beach Detachment Concord and subsequent redevelopment of the property by the City of Concord. The preferred alternative is the development plan adopted in 2012 by the City of Concord in the Concord Reuse Project Area Plan. The approved development plan supports transit oriented development around the North Concord/Martinez BART Station where higher intensity uses are planned, transit use in other developed areas of the site, and includes open space, greenways, and a bicycle network. EPA recognizes and supports the transit-oriented focus and open space preservation components of the proposed development. Nevertheless, we believe that the environmental impacts of the project warrant further consideration and mitigation.

Based on our review, we have rated the DEIS's preferred alternative as *Environmental Concerns – Insufficient Information* (EC-2) (see enclosed "Summary of Rating Definitions"). The development plan would remove 22 acres of wetlands, which would eliminate their important values to fish and wildlife, and their functions as storage areas for flood flows, groundwater recharge, nutrient recycling, and water quality improvement. We understand that the City of Concord will apply for a Clean Water Act Section 404 permit from the Army Corps of Engineers. EPA will work with the Corps when the Clean Water Act Section 404 permit is proposed to help ensure that these impacts are minimized. Please see our attached recommendations for improving the disclosure of impacts and regulatory processes in the Final EIS. We understand that all mitigation for impacts of the proposed project will be the responsibility of the City of Concord. Since impacts to air quality are described in the DEIS as significant, we recommend that the City ensure that robust air quality mitigation measures are implemented, and we encourage the Navy to work with the City to secure appropriate commitments to such measures.

EPA appreciates the opportunity to review this DEIS. When the Final EIS is released for public review, please send one copy to the address above (mail code: ENF-4-2). If you have any questions, please

0011-1

0011-1

The City of Concord conducted a comprehensive review and selection process through the California Environmental Quality Act (CEQA) to identify the preferred alternative, the Area Plan. The City Council adopted the Concord Reuse Project Area Plan (Area Plan) in 2012 and amended the Area Plan into the City's 2030 General Plan and certified a Final EIR in 2012. This process involved considering alternatives that would provide a viable future development project while minimizing impacts on the environment.

The City of Concord has submitted an Individual Permit application under the Clean Water Act (CWA) to the USACE with the goal of securing a site-wide permit that authorizes the fill of 6.93 acres of waters of the U.S. in connection with future economic development, the restoration of Mt. Diablo Creek, and habitat enhancements for federal and state listed species. According to the City's pending Individual Permit application and the USACE's Public Notice for the application (published June 14, 2016), economic development would result in the permanent fill of 4.23 acres of wetland and 1.42 acres of other Waters of the U.S.; the total (temporary and permanent) fill estimate is 6.93 acres (4.50 acres of wetlands and 2.43 acres of other Waters of the U.S).

The restoration of Mt. Diablo Creek and conservation enhancements for endangered species will fill 0.27 acres of wetlands and 1.01 acres of other Waters of the U.S. However, the restoration and conservation activities will also produce additional aquatic resources areas, reducing the net loss of jurisdictional waters from implementing the Area Plan to a net loss of 4.23 acres of wetland and 1.43 acres of other waters. The USACE will evaluate the City's application for compliance with the 2008 Federal Compensatory Mitigation Rule and for compliance with the Section 404(b)(1) Guidelines and the USACE's regulations (33 CFR Part 325), which require the USACE to identify and analyze project alternatives, and select the alternative that avoids and minimizes impacts to jurisdictional waters to the maximum extent practicable, and is the least environmentally damaging practicable alternative that achieves the overall project purpose. The Navy concurs with the EPA's statement that compliance with the 404(b)(1) Guidelines will be evaluated by the USACE independent of City approvals, during the 404 permitting process. If the City does not secure a site-wide Individual Permit, future property owners or developers would be responsible for securing any necessary CWA permits from the USACE, and any applications for an Individual Permit

would be subject to the 404(b)(1) Guidelines and the Compensatory Mitigation Rule.

contact me at (415) 972-3521, or contact Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

FOR Connell Dunning

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: Jane M. Hicks, Army Corps of Engineers
Michael W. Wright, City of Concord

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT, DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CONCORD, CALIFORNIA, NOVEMBER 24, 2014

Wetlands and Waters of the U.S.

The proposed development plan would fill approximately 16.1 acres of jurisdictional wetlands, including freshwater marsh and seasonal wetlands; 6 acres of non-jurisdictional wetlands; and approximately 8,716 linear feet of streams that lie within the development footprint (p. 4-168, 4-174). We have concerns with this level of impact from the direct fill of wetlands and streams, as well as the indirect impact of adding over 1,100 acres of new impervious surface to the watershed[1]. The DEIS references a Master Clean Water Act Section 404 permit that would establish the city as the responsible party for U.S. Army Corps of Engineers (USACE) permitting requirements. There is no "Master" 404 permit within Clean Water Act Section 404 permitting options, and the DEIS may be referring to a Regional General 404 permit.

Before issuing a 404 permit, the USACE will have to determine that impacts have been avoided and minimized to the maximum extent practicable. The information in the DEIS does not demonstrate that the City's redevelopment plan is the Least Environmentally Damaging Practicable Alternative per Section 230.10(a) of the EPA 404(b)(1) Guidelines. It appears that additional avoidance is possible. In addition, the 404 permit must include compensatory mitigation requirements for unavoidable impacts, in compliance with the 2008 Federal Mitigation Rule. EPA will provide additional comments on specific development proposals through the USACE Public Notice process.

Recommendation: We recommend that the following information be included in the FEIS:

- Clarify in the FEIS whether the "Master" 404 permit refers to a Regional General 404 permit. Indicate the status of the permit and describe the process whereby the City would comply with USACE permitting requirements.
- In Section 3.14.1.2, discuss the EPA 404(b)(1) Guidelines and how the USACE uses them to evaluate proposed permits, as well as the 2008 Federal Compensatory Mitigation Rule. This section currently only discusses the jurisdictional determination process in any detail, but that is only the first step in the permitting process.
- In Sections 4.14.1.2 and 4.14.2.2, state that, under the 404(b)(1) Guidelines, impacts to waters of the U.S. must be avoid and minimized to the maximum extent practicable. Compliance with this requirement will be evaluated by the USACE, independent of City approvals, during 404 permitting.
- Explain how the City plans to mitigate for impacts to 22 acres of wetlands and fill of over 1.5 miles of streams. For example, will mitigation be provided within the plan area, within the same watershed, outside the watershed, or through mitigation banks, etc.? It is not sufficient disclosure to say only that developers will have to comply with state and federal regulations.
- Clarify whether the "Concentration & Conservation" alternatives evaluated in the City's CEQA document were considered in the DEIS.

[1] Full project estimate is 1,442 acres of impervious surface; 359 acres currently exist (p. 4-169)

0011-2

0011-3

0011-4

0011-5

0011-6

0011-7

0011-8

0011-9

0011-2
The City of Concord has submitted an Individual Permit application under the CWA to the USACE with the goal of securing a site-wide permit for future development activities. This submittal included a Conceptual Habitat Mitigation Plan for Wetland, Aquatic, and Riparian Habitats. As described in the USACE's Public Notice, the City's development would avoid the largest jurisdictional wetlands on the site (two seasonal wetland features totaling approximately 8 acres near the old airfield and the majority of the Holbrook Drainage Channel (~ 1 acre), which is a vegetated ditch that flows along the north side of Willow Pass Road. In addition, fill impacts to Mt. Diablo Creek would be minimized by using clear-span bridges for the 9 planned new vehicle or pedestrian crosssings. Unavoidable fill would be mitigated through the creation of new wetland areas within NWS Concord; a total of 0.59 acres of new wetland area would be created in association with expansion and enhancement of existing California tiger salamander breeding ponds. In addition, the City is proposing to create up to 10 acres of new wetlands near the old airfield and enhance Mt. Diablo Creek. The Public Notice further acknowledges that a final mitigation plan would be required prior to the issuance of any Individual Permit.

0011-3
During the preparation of the DEIS, the City of Concord was discussing various options for CWA permitting with the USACE, including the potential for some form of site-wide permit (e.g., the term in discussion was a "Master" permit). Since that time, the City of Concord has submitted an Individual Permit application under the CWA to the USACE with the goal of securing a site-wide permit for future development activities. That Individual Permit is currently under review by the USACE. If the City is able to secure a site-wide permit from the USACE that is certified by the RWQCB, the permit conditions would include measures to adequately avoid, minimize, and mitigate for any adverse impacts on wetlands or Waters of the U.S. If the City does not secure site-wide permits, future property owners or developers would be responsible for securing any necessary state or federal resource permits and would have to demonstrate to the applicable resource agencies that impacts on wetlands, streams, riparian habitats, and listed species or their habitat have been minimized.

0011-4

The discussion of wetland and Waters of the U.S. presented in the FEIS has been revised to include a description of how the USACE is evaluating the Least Environmentally Damaging Practicable Alternative for the project. In June of 2016, the USACE issued a Public Notice discussing their evaluation of a site-wide Individual Permit for the Area Plan. The current project description includes avoidance of a large wetland and the majority of the Holbrook Drainage Channel in the Economic Development Conveyance area.

0011-5

Sections 3.14.1, 4.14.1.1, and 4.14.1.2 of the FEIS have been revised to further describe the permitting process. The City of Concord has submitted an IP application under the CWA to the USACE with the goal of securing a site-wide permit for future development activities.

0011-6

The City of Concord conducted a comprehensive review and selection process through the California Environmental Quality Act to identify the preferred alternative, the Area Plan. The City Council adopted the Concord Reuse Project Area Plan in 2012 and amended the Area Plan into the City's 2030 General Plan. This process involved consideration of alternatives that would provide a viable future development project while minimizing impacts on the environment.

Section 3.14.1.2 has been revised to further describe the permitting process. The City of Concord has submitted an Individual Permit application under the CWA to the USACE with the goal of securing a site-wide permit for future development activities. Through review of this Individual Permit, the USACE would ensure that the CWA 404(b)(1) Guidelines are met in order to issue a permit. In addition, the USACE would ensure that any necessary compensatory mitigation would comply with the 2008 Federal Compensatory Mitigation Rule. If the City does not secure a site-wide permit, future property owners or developers would be responsible for securing any necessary state or federal resource permits and would have to demonstrate to the USACE and USEPA that impacts on Waters of the U.S. are avoided, minimized, and mitigated, as necessary under 404(b)(1) Guidelines and that any compensatory mitigation would be consistent with guidelines in the 2008 Federal Compensatory Mitigation Rule.

0011-7
Sections 4.14.1.2 and 4.14.2.2 have been updated to reflect the status of the USACE 404 process and include information regarding planned mitigation activities. The USACE Public Notice indicates that the City's development would avoid the largest jurisdictional wetlands on the site, and compensatory mitigation for unavoidable fill impacts (4.23 acres of wetlands and 1.42 acres of other Waters of the U.S.) is proposed on site. A new wetland (0.59-acres in size) would be created in association with the expansion and enhancement of existing California tiger salamander breeding ponds. In addition, the City is proposing to create up to 10 acres of new wetlands downstream of a spring near the old airfield and enhance Mt. Diablo Creek. The USACE Public Notice provides more detailed information including maps.

0011-8
Please see response to comment 0011-7.

0011-9
The alternatives in the EIR, including the Concentration and Conservation alternatives, were not re-evaluated in the 2014 DEIS. As a result of the CEQA environmental review and planning process that eventually eliminated alternatives, none of the EIR alternatives were considered reasonable alternatives for reuse of the former NWS Concord in the DEIS. Please see FEIS Section 2.2.6, Alternatives Considered and Eliminated, for further information.

Water Quality
Mt. Diablo Creek, which bisects the site, is listed as impaired on the Clean Water Act Section 303(d) list due to the pesticide diazinon (sources: urban runoff/storm sewers) and toxicity from an unknown source (p. 3-210). The DEIS states that this impairment is being addressed by an EPA-approved Total Maximum Daily Load (TMDL), but does not discuss those efforts nor how the project would affect them. The project would add approximately 1,100 new acres of impervious surface, with development adjacent to Mt. Diablo Creek, and introduce new sources of urban runoff in the Mt. Diablo Creek watershed. The DEIS concludes that impacts to surface water quality would not be significant and that creek enhancements and channel restoration from the temporary impacts of development would result in beneficial impacts to water quality (p. 4-178).

> *Recommendation:* We recommend that the Final EIS describe existing restoration and enhancement efforts for Mt. Diablo Creek under the TMDL and how the proposed development would be coordinated with those efforts. Identify whether permeable pavement would be used and if this would reduce impacts to surface water quality, and discuss how urban pesticide runoff from new development would be prevented.

Hazards and Hazardous Substances
The DEIS provides a good summary of the areas of contamination and the cleanup actions being taken under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund. Since cleanup actions are ongoing, we recommend that the Final EIS include updates on the status of the cleanup actions at the CERCLA and Environmental Restoration Program sites.

In addition, we have the following recommendations for the Final EIS:

- For sites under review as part of the Preliminary Assessment Re-verification Investigation (PA/RVI), refrain from categorizing them in Tables 3.8-1 and 4.8-1 as "Closed or No Further Action". This is especially relevant for the Runway Apron Fuel Pit and Red Rock Disposal Area sites for which the Navy is recommending additional action.
- For sites with existing active remediation systems, particularly for groundwater and soil gas, that are likely to extend past land transfer, identify the associated institutional controls (ICs) in Table 4.8-1 instead of stating "not yet specified". IC's for these sites should, at a minimum, include not disturbing remediation equipment, and allowing access to equipment for maintenance, etc.
- Indicate at which sites contaminated groundwater is likely to be encountered during construction dewatering and describe any particular considerations necessary for proper management, treatment and disposal (p. 4-177)
- On page 4-78, the DEIS states that the City will require the developer to have a remediation plan that has been approved by applicable environmental regulatory agencies. Clarify the process for regulatory review of the remediation plan and what kinds of issues it would address, since the cleanup is likely to be complete for most sites once development would occur.

0011-10

0011-11

0011-12

0011-13

0011-14

0011-15

0011-10
Additional input regarding the Diazinon and Pesticide-Related Toxicity in Urban Creek TMDL and Mt. Diablo Creek was obtained from the Water Resources Engineer at the RWQCB; no restoration or enhancement activities on Mt. Diablo Creek associated with the TMDL are planned.

The EIS has been revised to indicate that the Mt. Diablo Creek 303(d) impairments are being addressed through an EPA-approved TMDL, the Diazinon and Pesticide-Related Toxicity in Urban Creeks TMDL. The current regulatory mechanism to implement this TMDL is the Municipal Regional Stormwater NPDES Permit, which includes the City of Concord, as part of the Contra Costa Clean Water Program. Provision C.9 (Pesticides Toxicity Control) requires permittees to implement a pesticide toxicity control program to address the use of pesticides that pose a threat to water quality and have potential to enter the municipal conveyance system. In addition to these requirements related to the Municipal Regional Stormwater NPDES Permit, any new development authorized by the City will include modern stormwater control and sewer systems that would reduce polluted urban runoff and storm sewer discharges into Mt. Diablo Creek, reducing any diazinon or replacement pesticide pollution originating from the site.

0011-11
The EIS was revised between the Draft and the Final to provide the current status (through December 2016) of each of the CERCLA Environmental Restoration (ER) Program sites remaining at NWS Concord.

0011-12
Recommendations from the Final Preliminary Assessment/Re-verification Investigation (PA/RVI) report, issued on June 30, 2016, have been incorporated into Sections 3.8 and 4.8, including Tables 3.8-1 and 4.8-1, of the FEIS.

In accordance with the comment, the PA/RVI sites have not been categorized as active or closed in Tables 3.8-1 and 4.8-1. Conclusions from the PA/RVI report regarding which sites have been recommended for no further action following the PA/RVI study have been included in the FEIS.

0011-13

Institutional Controls (ICs) have been developed for three sites: Solid Waste Management Units (SWMUs) 2, 5, 7, and 18 (one site), Installation Restoration (IR) Site 22, and IR Site 22A. Table 4.8-1 has been updated for the FEIS regarding anticipated ICs, where known.

0011-14
Four sites currently have ongoing groundwater investigation/cleanup activities: SMWUs 2, 5, 7 and 18 (one site); IR Site 29; IR Site 42; and Guam Way. In accordance with the City's Area Plan policies and the EIR mitigation measures adopted by the City pursuant to CEQA, any construction activities at or adjacent to these sites prior to site closure, including dewatering, if necessary, will be designed to ensure the existing groundwater plumes are not exacerbated by these activities. As explained in Section 4.8.2.1 and Table 7-1 of the EIS under Hazards and Hazardous Substances, the City's Area Plan policies and MMRP mitigation measures describe a City permitting process in which permit applicants (future property developers) will be required to 1) comply with applicable environmental laws and regulations, 2) develop and implement a Site Management Plan that addresses relevant topics such as construction dewatering, and 3) ensure "that development activities not interfere with any remediation activities or systems of the Navy or others."

0011-15
As clarified in the City of Concord's comment (referenced herein as comment 0024-5), the City of Concord will require a Remediation Plan only in the event of an Early Transfer. In that context, such a Remediation Plan would be prepared, reviewed, and approved in accordance with the law and regulations applying to Early Transfer. Section 4.8.2.1 of the EIS has been revised to incorporate this clarification.

Mitigation of Air Quality Impacts

The DEIS identifies significant air quality impacts for both the construction and operations phases of the project (pp. 4-33 – 4-34). For construction mitigation, it states only that all feasible construction activity control measures will be applied at the site. We were unable to find any specific references to these measures in the DEIS or the Concord Reuse Project Area Plan.

> *Recommendation:* We recommend that the FEIS identify the suite of mitigation measures that the City would deem feasible and require during construction. We recommend that the City include a requirement to utilize Tier 4 engines for project construction equipment to the maximum extent feasible.

For mitigation of operational emissions, the DEIS states that wood-burning fireplaces would be banned or required to employ best available control technologies, and that households with wood-burning fireplaces would comply with Spare the Air Day restrictions. While EPA Phase 2 Qualified fireplaces are approximately 70% cleaner than unqualified models[2], they still represent a substantial new pollutant source when applied to 12,272 new housing units. We note that, in addition to the health effects caused by particulate matter pollution, wood smoke contains black carbon, a greenhouse gas[3].

> *Recommendation:* We recommend that the City prohibit the installation of wood-burning fireplaces for the project. If wood-burning fireplaces are not prohibited in the project development, we recommend that the FEIS provide estimates of greenhouse gases and black carbon emissions that would result from the operational phase of the project. Since it is difficult to predict compliance with Spare the Air Day restrictions, we recommend eliminating that as a mitigation measure.

[2] http://epa.gov/burnwise/fireplaces.html
[3] http://epa.gov/blackcarbon/

0011-16

0011-16

0011-17

0011-16
The suite of mitigation measures requested by the commenter was previously provided in the City's FEIR under Mitigation Measure AQ-5, which indicates that the following controls will be implemented at all construction sites in order to reduce emissions from construction activities. Basic control measures: 1. Water all active construction areas at least twice daily. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard. 2. Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. 3. Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites. Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

The following enhanced control measures will be implemented at construction sites greater than 4 acres in area: 1. All "Basic" control measures listed above. 2. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more). 3. Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.). 4. Limit traffic speeds on unpaved roads to 15 miles per hour. 5. Install sandbags or other erosion-control measures to prevent silt runoff to public roadways. 6. Replant vegetation in disturbed areas as quickly as possible.

The following control measures are required at construction sites that are large in area, located near sensitive receptors, or which for any other reason may warrant additional emissions reductions: 1. Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site. 2. Install wind breaks or plant trees/vegetative wind breaks at windward side(s) of construction areas. 3. Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour. 4. Limit the area subject to excavation, grading, and other construction activity at any one time.

All construction equipment will require the following control measures: 1. Comply with the latest CARB certification for off-road heavy duty diesel engines. 2. Maintain properly tuned engines. 3. Minimize the idling time of diesel-powered construction equipment to two minutes. 4. Use alternative powered construction equipment (i.e., compressed natural gas, biodiesel, electric) whenever possible. 5. Use add-on control devices such as diesel oxidation catalysts or particulate filters, as appropriate. 6. Limit the operating hours of heavy duty equipment.

In addition to emission-control strategies described in the FEIR under Mitigation Measure AQ-5, the City will require Tier 4 engines for construction equipment to the maximum extent feasible, as suggested by the commenter.

No revisions have been made to the EIS in response to this comment.

0011-17
With respect to operational emissions, the DEIS air quality analysis has determined that most air quality impacts described in the City's FEIR will be mitigated through implementation of the measures defined in the FEIR and Climate Action Plan. As noted in Mitigation Measure AQ-1, wood-burning fireplaces may be banned within the CNWS or required to employ best available control technologies, in addition to the required compliance with all applicable Spare the Air Day restrictions. The DEIS assumed that wood-burning fireplaces would be banned; the analysis included other specific air quality mitigation measures for buildings and transportation that would mitigate overall project emissions. Although the project may allow some controlled fireplaces, it is not feasible at this time to determine the number of fireplaces that will be allowed or the control measures that would be implemented. The additional emissions from controlled wood-burning fireplaces in some households would be difficult to quantify at this time but are not expected to change the conclusions of the DEIS.

No revisions have been made to the EIS to address this comment.

0012-1
Comment noted.

FIND ME A ROOM TO RENT
W/3-meals, ANTIOCH - 94531.
ENGR. MANDI S. Gottlieb
Happy & healthy.
REWARD = $100.00

[redacted]
LV. YOUR MESSAGE.
[redacted]

THANK YOU KINDLY

NOV 2014

NEWSROOM

THE AMERICAN INSTITUTE OF ECONOMIC RESEARCH IS ADVOCATING THE FOLLOWING POLICIES:

- ~~BANNING RESALE OF FIREARMS, LIQUOR, BEER, PISTOLS AND AMMUNITION.~~
- MAKING DIVORCE ILLEGAL
- REQUIRING ANNUAL PSYCHIATRIC EXAMINATIONS.
- LOWERING PROPERTY TAX RATES AND SALES TAX RATES BY 35%.
- CREATING VOLUNTEER BEAUTIFICATION PROJECTS IN CITIES.
- ELIMINATING THE LIFE OF DEATH ROW INMATES WHO HAVE LIVED THERE FOR TWO OR MORE YEARS VIA SELF-ADMINISTERED CYANIDE POISON.
- ADDING DAY AND GIRL SCHOOLING TO PUBLIC EDUCATION CURRICULUM WITHOUT ADDITIONAL FUNDING.
- PROVIDING SINGLE PAYER HEALTHCARE SERVICES VIA THE IBM CORPORATION HEADQUARTERED IN ARMONK, NEW YORK.
- RESTRUCTURE CITY AND COUNTY GOVERNMENT FUNDING GEOGRAPHIC BOUNDARIES AND CREATING THE CASE FOR SERVICE AND ADMINISTRATIVE EFFICIENCIES.
- REQUIRING ANYONE TAKING THE COURSE "HOW TO GET MARRIED" TO BE AWARDED LICENSE FEES AT A COST OF $250 PER PERSON.
- FORCE SCHOOLS FOR THE UNITED NATIONS FOR WORLD HEALTH ORGANIZATION.
- ELECT A FEMALE U.S. PRESIDENT IN 2016.
- ELIMINATE LOCAL CRIME BY ADDING 4TH TWENTY FEET
- LIMIT THE SALARY OF PUBLIC EMPLOYEES TO BE FIFTY PERCENT OF THE SALARY OF THE U.S. PRESIDENT. WWW.MEMBERS-LICENSE.ORG
- ELIMINATE HEALTH INSURANCE AND RETIREMENT BENEFITS FOR ALL EMPLOYEE LEADERS. AFTER 5420 SMALL BUSINESS AWARDS IN CALIFORNIA ELECTRICITY

WWW.MEMBERS-LICENSE.ORG

2018 NOV 13 PM 3:50

Navy PRAC PJO

[redacted]

[redacted]

SAN DIEGO CA 921

18 NOV 2014 PM 3 L



NETA Project Mgr
14TH Fleet Ld Ste 900
San Diego CA 92108-4310

92108$4301

From: Silva Harr [redacted]
Sent: Monday, November 24, 2014 8:54 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: Concord Naval Weapons Station Re-use Proposals

I am a long time Concord resident sinca 1971. I STRONGLY believe that the best plan for the former NWS property is to NOT develop it. It should be cleaned up and left as open undeveloped space, NOT crammed full of low end housing as this city sees fit to do with every possible scrap remaining open land. I lost the open space behind my home a few years ago when 24 units of cheap housing was squeezed into a former railway right of way. There wasn't even enough space to build a proper street, so they built a little alley way called "Silverleaf Lane" to access the homes. They have no street parking, as there's no actual street. I sadly had to witness thousands of california quail in a mass migration through our backyards to I don't know where when the heavy equipment arrived. we ALL lost our herd of tule elk some yeard ago Heavy dense unchecked growth is NOT in Concord's best interest.

The proposed developement will only increase stress on an already over burdened infastructure. Our streets are in serious need of repair. Shopping centers are neglected and many stores are vacant. Our city leaders appear to be using Oakland's squallor and poverty as the model for Concord's future. I know what I'm saying, I have also been an Oakland resident since 1978. This is not what we want for our city. The parking for the proposed "villages" is completely inadequate. BART riders will be parking in those neighborhoods, as there isn't enough parking at BART. There isn't adequate bus service so that people must drive to get to the trains. I sincerely believe ANY development of the base is ill conceived and I do not support it. Our wildlife deserve to keep their existing habitat which the base has offered for a long time. Thank you.

Silva Harr
[redacted]

0013-1
As noted in the EIS, the purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord. The need for the proposed action is to provide the local community the opportunity for economic development and job creation.

0013-1 Alternative 1 (the Preferred Alternative) is reuse of the surplus property consistent with the City of Concord's Area Plan, as adopted. As discussed in Chapter 1, the Area Plan upon which Alternative 1 is based was the result of an extensive reuse planning process that took place between 2008 and 2012 undertaken by the City of Concord, during which seven alternatives were evaluated. All seven of the alternatives were variations on mixed-use development. In accordance with NEPA, the Navy is also evaluating an alternative to the proposed action, Alternative 2 (Intensified Reuse), which is also consistent with the policies developed by the City of Concord during the reuse planning process but represents a higher intensity of use overall.

Please see the EIS for a discussion of socioeconomics, wildlife/natural resources, and traffic and transportation (Sections 4.3, 4.5, and 4.11, respectively).



East Bay Regional Park District

2950 PERALTA OAKS COURT • P.O. BOX 5381 • OAKLAND • CA • 94605-0381
T. 1 888 EBPARKS F. 510 569 4319 TDD. 510 633 0460 WWW.EBPARKS.ORG

November 25, 2014

Via E-Mail
Attn: Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900
San Diego, California 92108-4310
erica.spinelli@navy.mil

Re: East Bay Regional Park District Comments on Navy Draft EIS for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord

Dear Ms. Spinelli:

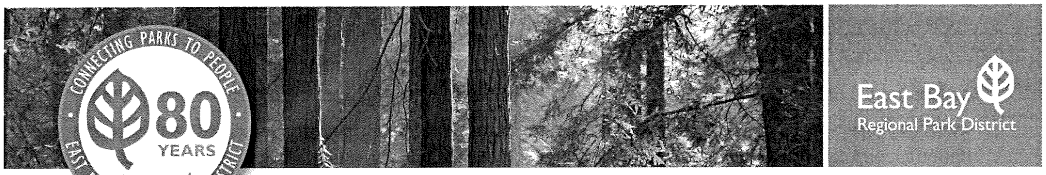
Thank you for the opportunity to provide comments on the draft Environmental Impact Statement (EIS) for the disposal and reuse of the Naval Weapons Station Detachment, Concord, California.

The East Bay Regional Park District (District) is the nation's largest regional park district managing 65 regional parks, recreation areas, wilderness, shorelines, and preserves encompassing over 114,000 acres within Alameda and Contra Costa County. The District manages 29 regional trails connecting East Bay cities to over 1,200 miles of natural surface trails within parklands. Additionally, the District offers 235 family campsites, 42 youth camping areas, numerous picnic grounds, and 10 interpretive and education centers. The District had a budget of over $228 million in 2014 with an equivalent of 739 full time employees.

The District has had a long-term interest in establishing a new regional park on the lands of the former Concord Naval Weapons Station (CNWS). The District's Master Plan identifies the Concord Hills Regional Park on the CNWS lands consistent with the Area Plan adopted by the City of Concord Local Reuse Authority.

In November, 2008, voters in Alameda and Contra Costa County approved Measure WW, the Regional Open Space, Wildlife, Shoreline, and Parks Bond Extension. The CNWS was identified as a major priority in Measure WW with $16 million allocated to work in partnership with Concord and the National Park Service to acquire, restore, and develop a major new regional park that would protect open space and wildlife habitat while developing a range of recreation, interpretive, and education facilities in the area.

On October 28, 2009, President Obama approved H.R. 2647, the National Defense Authorization Act for Fiscal Year 2010, that contained provisions for the Port Chicago Naval Magazine National Memorial to be administered as a unit by the National Park Service (NPS).



2950 PERALTA OAKS COURT • P.O. BOX 5381 • OAKLAND • CA • 94605-0381
T. 1 888 EBPARKS F. 510 569 4319 TDD. 510 633 0460 WWW.EBPARKS.ORG

The Port Chicago Naval Magazine National Memorial is located within the active tidal area of Military Ocean Terminal Concord (MOTCO) operated by the U.S. Army and public access remains restricted. The authorizing legislation authorized NPS to work in partnership with the City of Concord and the District to establish and operate a facility for visitor orientation and parking, administrative offices, and curatorial storage for the National Memorial. The District has been working with NPS in planning for such a facility on the closed inland area of the former CNWS.

The City of Concord, acting as the Local Reuse Authority, initiated a multi-year community planning process following closure of the CNWS in 2008 culminating in the adoption of a Reuse Plan in 2010. This plan was further refined and integrated into Concord's General Plan through the adoption of the Concord Reuse Project Area Plan in January 2012.

The adopted Area Plan includes the new regional park of 2,540 acres located on the eastern portion of the site to be conveyed to the District through a public benefit conveyance. The Area Plan designates the Regional Park area as "Conservation Open Space" and describes the area as including hiking trails and trailheads, bicycle paths, picnic areas, overlooks, and an interpretive center, and other recreation and education facilities as appropriate with the area's conservation goals. The Area Plan explains that the regional park "will add to the region's rich network of publicly accessible parkland while maintaining and enhancing the site's habitat value." (Concord Reuse Project Area Plan, p. 68, Section 3.4A.)

The District Board of Directors authorized submittal of an application for a public benefit conveyance (PBC) through the National Park Service Federal Lands to Parks program on September 3rd, 2013. On May 8, 2014, NPS informed the District and the Navy that the PBC application for 2,540 acres of the former CNWS was approved and that they will grant a public benefit allowance of 100 percent of the fair market value of the property to be conveyed.

The District envisions a world class regional park that balances public access and recreation with natural and cultural resource protection. Conceptual plans have developed incorporating information and community input received during the development of the Reuse Plan and Area Plan, as well as the City's Trails Master Plan and the aforementioned enabling legislation for the Port Chicago Naval Magazine National Memorial.

The District is initiating a Land Use Plan that will guide implementation of the Concord Hills Regional Park. The Land Use Plan will identify recreational and educational facilities, trails, and operational support facilities that will be developed in coordination with the City of Concord consistent with the habitat preservation requirements identified in the Area Plan and to be further developed through consultation with state and federal resource agencies.



2950 PERALTA OAKS COURT • P.O. BOX 5381 • OAKLAND • CA • 94605-0381
T. 1 888 EBPARKS F. 510 569 4319 TDD. 510 633 0460 WWW.EBPARKS.ORG

Specific Comments on the Draft EIS

Executive Summary:

There is only one sentence in the Executive Summary that mentions the District's role in the proposed action, and that language does not appear until page ES-5. The language provides: "The land within [the Conservation Open Space District] is anticipated to be designated for open space and regional park uses and would be managed by the East Bay Regional Park District (EBRPD)." Please add the following language regarding the District on page ES-1:

> The District submitted an application for a public benefit conveyance (PBC) through the National Park Service Federal Lands to Parks program on September 3, 2013. On May 8, 2014, the National Park Service informed the District and the Navy that the PBC application for 2,540 acres of the former Concord Naval Weapons Station was approved.

Chapter 1:

On page 1-2 of the EIS, the statement of Purpose and Need for the proposed action recognizes the need to provide the local community with "the opportunity for economic development and job creation," but does not state any purpose or need related to the proposed regional park on the PBC portion of the property. This paragraph should be revised to state the additional purpose and need of providing a large regional park and open space for the local community.

Chapter 2:

The description of "Conservation Open Space" on page 2-12 of the EIS is incomplete. The District requests that the Navy insert the following suggested language, which is consistent with the Area Plan and with the District's 2013 Public Benefit Conveyance Application approved by NPS in 2014:

> The Conservation Open Space District consists of a large regional open space occupying approximately 2,537 acres, which would be located on the eastern portion of the former NWS Concord. The land within the district is anticipated to be designated for open space and regional park uses and would be managed by the East Bay Regional Park District (EBRPD). The EBRPD will be developing a Land Use Plan that will identify future land uses within the Conservation Open Space area in a manner that balances public access and recreational and educational facility development with natural and cultural resource conservation. This Regional Park would include conversion of rails to trails, development of new regional trail connections, development of a jointly managed visitor center for the Port Chicago Naval Magazine National Memorial, and passive recreational and environmental education facilities including picnic areas, interpretive displays, and other limited intensity uses consistent with resource protection goals. Access, infrastructure, and parking will be accommodated within existing developed areas to the maximum extent feasible, to be evaluated through the development of a Land Use Plan.

0014-1

0014-2

0014-3

0014-1
Comment noted. Information on the public benefit conveyances has instead been added to a new FEIS Section, Section 2.2.3.4 Property Conveyances. This section briefly describes the Navy's transfer process and includes information on the types of conveyance mechanisms to be used for the former NWS Concord, with discussion of the associated sponsoring agencies for the public benefit conveyances. An abbreviated summary of this discussion has also been included under ES.4.1 Alternative 1.

0014-2
The purpose and need of the proposed action is related solely to the BRAC action. The proposed action is disposal and reuse of the former NWS Concord in accordance with the City's Area Plan, which includes reuse of the former NWS Concord for conservation/open space. In addition, as stated in Section 1.2, the Navy's disposal of the surplus former NWS Concord property into non-federal ownership and the subsequent reuse of the property following disposal by the Navy is the focus of the EIS.

0014-3
Comment noted. As mentioned in FEIS Section 1.10, additional detail is not included in the EIS regarding the specific components of the Concord Hills Regional Park Land Use Plan, because the Area Plan has not been amended, and the process established by the City of Concord for implementation of the Area Plan has not changed. The proposed action evaluated in this EIS remains reuse of the property in a manner consistent with the City of Concord's Area Plan.



2950 PERALTA OAKS COURT • P.O. BOX 5381 • OAKLAND • CA • 94605-0381
T. 1 888 EBPARKS F. 510 569 4319 TDD. 510 633 0460 WWW.EBPARKS.ORG

On page 2-13 of the EIS, the second full paragraph describes the PBC conveyance to the District as uncertain. This language should be revised to reflect that NPS approved the District's PBC application on May 8, 2014.

> Some facilities ~~may~~ will be developed and operated by agencies other than the City of Concord, such as the Contra Costa County Sheriff, MDUSD, and the EBRPD. Some sites may be transferred through public benefit conveyances. Uses that have been introduced through the public benefit conveyance (PBC) request process and that may be developed on the site include a sheriff's, fire department, and firstresponder training center, and large, open-space areas for habitat protection, regional park, restoration, and recreational opportunities. On May 8, 2014, the National Park Service informed the District and the Navy that it approved the EBRPD's PBC application for 2,540 acres of the former Concord Naval Weapons Station for development of a regional park. ~~Should the proposed conservation open space area be conveyed to the EBRPD for regional park uses, f~~ Future planning and design efforts for the regional park will ~~would~~ be completed in accordance with the EBRPD Master Plan and could include conversion of rails to trails, development of new regional trail connections, development of a visitor center developed collaboratively with the National Park Service, and passive recreational and environmental education facilities including picnic areas, interpretive displays, and other limited intensity uses consistent with resource protection goals. ~~an interpretive center within the proposed regional park developed collaboratively with the U.S. National Park Service.~~

Chapter 3: Section 3.2 Land Use and Zoning

On page 3-11, Section 3.2.4.1, the EIS enumerates some of EBRPD's policies that are applicable to the development of regional parks. The District requests that EIS be revised to include the additional EBRPD policies enumerated in **Attachment A** to this letter.

Chapter 3: Section 3.8 Hazards and Hazardous Substances

As provided on page 3-97, the EIS provides that the Navy contemplates leaving certain residual contamination (for example, residual pesticide contamination, TCE contained in soil vapor near buildings, PCB-containing oils contained in electrical equipment) on the CNWS property. The District's view is that this residual contamination should be remediated prior to transfer of the Property. Thus, the District requests that the Navy add the following language to page 3-97 to acknowledge the limitations of the Navy's ER Program:

> Certain residual contamination (for example, residual pesticide contamination, TCE contained in soil vapor near buildings, PCB-containing oils contained in electrical equipment) may remain at the former CNWS property. To the extent that it is not remediated pre-transfer, that contamination may remain at the NWS Concord property for extended periods of time, particularly on the PBC parcel, before such contamination is addressed in connection with development of the PBC.

On page 3-100, at the end of Section 3.8.2.1, the District requests that the Navy add the same language suggested above for page 3-97.

0014-3 Continued

0014-3 cont'd
Additionally, the requested revision was not incorporated as requested because information on the public benefit conveyances has now been moved to a new subsection of the FEIS, Section 2.2.3.4 Property Conveyances, which briefly describes the Navy's transfer process, and includes information on the types of conveyance mechanisms to be used for the former NWS Concord, with discussion of the associated sponsoring agencies for the public benefit conveyances. An abbreviated summary of this discussion has also been included under ES.4.1 Alternative 1. The RTC requesting that the Navy include this information in the EIS has also been revised.

0014-4

0014-4
Section 3.2.4.1 of the FEIS has been revised to include the suggested language.

0014-5

0014-5
As explained in Section 3.8.2.3., the Navy is required to prepare a Finding of Suitability to Transfer (FOST) or Finding of Suitability for Early Transfer (FOSET) prior to property transfer.

A FOST provides a summary of the environmental conditions and notifications for hazardous substances. The notifications as well as restrictions of certain activities are intended to ensure that post-transfer use of the FOST Parcel is consistent with protection of human health and the environment. These notices and restrictions in a FOST will address sites with institutional controls, asbestos-containing material, lead-based paint, polychlorinated biphenyl (PCB)-containing equipment, pesticides, petroleum, and munitions and explosives of concern.

Deed notices and restrictions are intended to provide the future property owner with information regarding the environmental conditions at the time of transfer.

No changes are required to Section 3.8.2.1 .

0014-6

0014-6
Please see Response to Comment 14-5.



2950 PERALTA OAKS COURT • P.O. BOX 5381 • OAKLAND • CA • 94605-0381
T. 1 888 EBPARKS F. 510 569 4319 TDD. 510 633 0460 WWW.EBPARKS.ORG

On page 3-100, in the first sentence of Section 3.8.2.2, no evidence is provided for the statement that the Navy "has complied with other regulations" as stated. The District requests that the Navy provide the following substitute language:

> In addition to the requirements of the ER Program, the Navy is subject to other regulations for hazardous wastes and materials during ownership and occupancy of the former NWS Concord property.

On page 3-102, in the first paragraph of Section 3.8.2.3, the current text implies that all contamination will be remediated prior to transfer. The District requests that the Navy add the following sentence at the end of the first paragraph to clarify this point:

> Prior to conveyance, not all hazardous materials will be addressed or cleaned up to standards consistent with reasonably anticipated future land uses, particularly on the PBC.

On page 3-123, in Section 3.8.3.3.1, the discussion of Building 93 indicates that TCE was detected in groundwater, but does not address soil vapor and vapor intrusion issues. The District requests that the Navy add the following sentence at the end of that paragraph:

> Soil vapor samples for TCE were not collected to determine whether TCE may pose vapor intrusion issues at Building 93.

On page 3-134, in Section 3.8.6.6, the discussion indicates that transformer oils containing PCBs at levels greater than 5 mg/L will be left in the equipment. This section also indicates that light ballasts manufactured before 1979 likely contain PCBs. The District requests that the Navy add the following text to that section:

> Oils containing PCBs above the California threshold for categorization as a hazardous waste (5 mg/L) may remain in electrical equipment for extended periods of time, particularly on the PBC property, before that property can be redeveloped. In addition, PCB-containing light ballasts may remain in buildings for an extended period of time, particularly on the PBC property, before redevelopment takes place.

Chapter 4: Section 4.5 Biological Resources

The Biological Resources impact analysis contains internal inconsistencies with regard to the assumptions governing the level of development and proposed uses of the PBC parcel that will be developed into a regional park. The District requests that the Navy provide introductory language in Section 4.5 explaining the extent of disturbance and development on the Conservation/Open Space parcel, in particular, that the regional park will include conversion of rails to trails, development of new regional trail connections, development of a visitor center developed collaboratively with NPS, and passive recreational and environmental education

0014-7

0014-7
The intent of the first sentence of Section 3.8.2.2 is to indicate that the Navy has complied with regulations for hazardous wastes, USTs, ASTs, and other associated plans and codes while under Navy ownership.

A FOST or FOSET to be issued prior to transfer will provide additional information about site and media-specific compliance.

No changes are required to Section 3.8.2.2.

0014-8

0014-8
As stated, FOSTs summarize how the requirements and notifications for hazardous substances, petroleum products, and other regulated materials have been satisfied. A FOST provides a summary of current environmental conditions, and any restrictions, notifications, or deed covenants related to hazardous materials that may remain at transfer.

No changes are required to Section 3.8.2.3.

0014-9

0014-9
Building 93 (SWMU 24) has been investigated several times since 1997 including a RCRA Facility Assessment (RFA), geophysical investigation, explosive hazard investigation, and an Area of Potential Interest (AOPI) Site Inspection (SI). No further action (NFA) was recommended for Building 93 in 2013 based on the results of an AOPI SI and previous investigations. The Department of Toxic Substances Control (DTSC) provided a concurrence letter on November 4, 2015. No additional investigation is warranted.

0014-10

No changes are required to the discussion of Building 93 in Section 3.8.3.3.1.

0014-11

0014-10
Section 3.8.6.6 has been updated to include results from a recent base-wide PCB inventory and inspection that was conducted between 2013 and 2015 in preparation for property transfer of the former NWS Concord. Of the 207 pieces of oil-filled electrical equipment remaining at the installation, all contain either no PCBs or PCBs below the EPA limit (50 ppm). Some of those pieces may contain PCBs above 5 ppm, which is the level at which the California DTSC requires PCB-containing liquids to be

managed as a hazardous waste (22 CCR Division 4, Chapter 11, Article 3), when those liquids are disposed of.

Section 3.8.6.6 has been updated to further clarify that light ballasts that do not have a "Contains no PCBs" label, were manufactured prior to 1979, and for which the manufacturer cannot confirm the PCB content could be considered to potentially contain PCBs. Section 4.8.2.4.6 has been updated to clarify that old fluorescent light fixtures that are removed by future owners of the property could contain PCB-containing ballasts that would require disposal as a hazardous waste if the PCB content could exceed DTSC hazardous waste standards.

The FOST will contain a summary of current environmental conditions, and any restrictions, notifications, or deed covenants related to hazardous materials that may remain at transfer. The transferee assumes responsibility at time of transfer and shall comply with existing federal, state, and local laws and regulations independent of the time when construction/demolition activities are conducted.

0014-11
The impact analyses provided in the DEIS were based on the conceptual plans for the conservation/open space parcel that were available at the time of DEIS publication and are considered adequate for a NEPA-level analysis. Since development of the Draft EIS, additional details are available on the conversion of rails to trails, development of new regional trail connections, development of a visitors center and other limited uses. The FEIS has been updated where appropriate and relevant to reflect the information available at the time of FEIS publication.



2950 PERALTA OAKS COURT • P.O. BOX 5381 • OAKLAND • CA • 94605-0381
T. 1 888 EBPARKS F. 510 569 4319 TDD. 510 633 0460 WWW.EBPARKS.ORG

facilities including picnic areas, interpretive displays, and other limited intensity uses consistent with resource protection goals.

On page 4-47, the second paragraph states that only five percent of the Conservation Open Space district would be disturbed during construction. The District requests that this paragraph be revised as follows:

> Reuse of the former NWS Concord would disturb up to 2,540 acres of land, based on the assumption that 5 percent of the Conservation Open Space development district would be disturbed during construction, and all land within the other development districts would be disturbed during construction. However, acreage of disturbance from construction on the Conservation Open Space development district is unknown and may be greater than five percent. The actual extent of disturbance will be evaluated in EBRPD's Land Use Plan and associated environmental review documents. Construction activities would result in disturbance of soils, erosion, and other impacts.

On page 4-52, the EIS concludes that the loss of 353 acres of ruderal habitat (75%) is less than significant but provides no support for this conclusion. The District suggests that the following language be added to the impact discussion regarding ruderal habitat. A similar revision is suggested for the impact discussion regarding orchards and plantations, found at pages 4-52 and 4-53 of the EIS.

> **Ruderal/Urban**
> Under Alternative 1, the majority of the ruderal habitat type, 353 acres (76 percent), would be permanently removed. Ruderal habitat would be removed from within all the development districts, with the majority being removed within the Village Neighborhood and First Responder Training Center development districts. Approximately 467 acres (9 percent of the site) are developed with urban and industrial areas, including roadways, parking lots, runways, railroad yards, and asphalt aprons surrounding buildings. Such areas often contain patches of ruderal vegetation as well as landscaped trees and shrubs. Ruderal vegetation also exists on the roofs of bunkers, which are covered with soil and provide some grassland habitat. As much of the ruderal habitat is within existing developed areas and the associated maintained landscaped vegetation communities on the former NWS Concord, the loss of 353 acres of ruderal habitat would not be significant because future project proponents would be required to avoid, minimize, and/or compensate for impacts to ruderal habitat.

On page 4-53, the EIS states that all fencing will be removed. This statement is not accurate, as some fencing will need to remain on site. The District requests that this statement be revised as follows:

> Under Alternative 1, in consultation with U.S. Fish & Wildlife Service, where necessary this fencing would be removed from the former NWS Concord, ~~thus alleviating~~ to alleviate these constraints to wildlife movement into the future conservation area.

0014-12

0014-12
Comment noted. Section 4.5.5.1 has not been revised to incorporate the requested change because the Area Plan has not been amended, and the process established by the City of Concord for implementation of the Area Plan has not changed. The proposed action evaluated in this EIS remains reuse of the property in a manner consistent with the City of Concord's Area Plan. However, as stated in Chapter 1.10 of the FEIS, Sections 2, 3, and 4 of the FEIS have been revised to recognize that the EBRPD has begun development of the Concord Hills Regional Park Land Use Plan, and relevant conservation measures from the BO have been incorporated into the proposed action. Also as noted in the FEIS, the EBRPD will be responsible for completing environmental review of Concord Hills Regional Park Land Use Plan as required under CEQA, and any implementation of the Land Use Plan involving construction projects will require further review and permitting from a variety of agencies.

0014-13

0014-13
Section 4.5.1.1 has been revised to better clarify that the loss of ruderal habitat and orchards and plantations are not significant. Statements regarding avoidance and mitigation were not included as there are no statutory requirements applicable to protection of ruderal habitats, plantations, or orchards. In addition, these habitats are not particularly valuable to wildlife because ruderal habitats are frequently dominated by hardscape and other developed features, and the ruderal habitats, plantations, and orchards on the installation are dominated by non-native vegetation.

0014-14

0014-14
The commenter is correct that not all of the existing fencing will be removed and that some fencing will need to remain on the site. Some fencing may need to remain in place for safety reasons or in association with cattle-grazing. Some, but not all portions of the existing fence, would be removed in association with the development of conservation measures to benefit listed species based on consultations with the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

Sections 4.5.1.2 and 4.5.2.2 of the FEIS have been modified to more accurately describe wildlife movement and the approach to removal of fencing.



2950 PERALTA OAKS COURT • P.O. BOX 5381 • OAKLAND • CA • 94605-0381
T. 1 888 EBPARKS F. 510 569 4319 TDD. 510 633 0460 WWW.EBPARKS.ORG

Chapter 4: Section 4.8 Hazards and Hazardous Substances

On page 4-76, Section 4.8.1.1 states that the future developer will complete the remediation at NWS Concord and that there will be no reasonably foreseeable impacts after completion of the Navy's portion of the cleanup. The District requests that the Navy add the following text to this section:

> Residual pesticides in soil, TCE in soil vapor, ACM in buildings and transformer oil containing PCBs at levels above the California threshold for categorization as a hazardous waste (5 mg/L) may remain in place at the property, particularly the PBC property, for an extended period of time before redevelopment takes place.

On page 4-77, Section 4.8.2.1 describes the ER Program. The District requests that the Navy consider adding the same language suggested for Page 3-97 at the end of Section 4.8.2.1 (pasted again below).

> Certain residual contamination (for example, residual pesticide contamination, TCE contained in soil vapor near buildings, PCB-containing oils contained in electrical equipment) may remain at the former CNWS property. To the extent that it is not remediated pre-transfer, that contamination may remain at the NWS Concord property for extended periods of time, particularly on the PBC parcel, before such contamination is addressed in connection with development of the PBC.

On page 4-78, Section 4.8.2.1 states that the City of Concord will require a developer to have an approved remediation plan in place. The District requests that the Navy add the following language near the end of that section concerning impacts of remediation on the PBC parcel:

> Depending on the scope and extent of additional remediation necessary on the PBC parcel, the implementation of such further remediation may prevent or delay for extended periods of time the redevelopment of portions of the PBC.

On page 4-81of the EIS, Table 4.8-1 lists the status for various ER Program sites. In light of the new guidance regarding TCE from Region 9 of the U.S. Environmental Protection Agency, the District requests that all locations on the PBC parcel be further investigated for TCE contamination, including for vapor intrusion. In particular, Building 81, Building 93 and buildings located at SWMUs 12, 20, 23, 24, 25, 29 and 54 should be investigated for vapor intrusion risks.

On page 4-81 of the EIS, Table 4.8-1 lists the status for various UXO-impacted sites. The District requests that surface soils at UXO sites IRP Site 24A, UXO 0010, UXO 0012, UXO 0013 be sampled by the Navy for chemicals of concern, using Method 8330B and other appropriate analytical methods.

0014-15

The 2nd to last paragraph of Section 4.8.1.1 is intended to document that the Navy is responsible under CERCLA to complete the remedial action and the future property owner is responsible for adhering to the local, state, and federal regulations for redevelopment activities.

No changes are required to Section 4.8.1.1.

0014-15

0014-16

Please see response to Comment 14-5. As well, Section 4.8.2.1 refers to the impact assessment methodology in Section 4.8.1.1, which has been updated to refer to the FOST/FOSET that the Navy will prepare.

0014-16

0014-17

As discussed in the response to Comment 11-14, Section 4.8.2.1. has been updated to clarify that the City will require a Remediation Plan only in the event of an Early Transfer.

0014-17

0014-18

The Navy is currently conducting a soil vapor and groundwater investigation at IR Site 42 (Building 81) and a Site Investigation at IR Site 41 (1A-100). Building 93 and SWMU sites within the EBRPD Public Benefit Conveyance (PBC) property have obtained NFA by the regulatory agencies. No further evaluation is required at these sites.

0014-18

0014-19

The Navy is currently conducting CERCLA investigations at UXO 1A (IR Site 24A, Pistol Firing Range), UXO 10 (Eagle's Nest EOD), UXO 12 (Bermed Area), and UXO 13 (Rocket Practice Area). The fieldwork is being conducted under the oversight of the environmental regulatory agencies under regulator-approved work plans. In accordance with the CERCLA process, chemicals of concern are based on results of previous investigations conducted at each site. The Navy has used EPA Method 8330B at some sites as appropriate. Based upon site-specific conditions, it is not always preferred.

0014-19



2950 PERALTA OAKS COURT • P.O. BOX 5381 • OAKLAND • CA • 94605-0381
T. 1 888 EBPARKS F. 510 569 4319 TDD. 510 633 0460 WWW.EBPARKS.ORG

On page 4-95, Section 4.8.2.4.4 discusses asbestos and states that future developers will remediate the asbestos. The circumstances governing both development of the EDC Parcel, and funding for asbestos removal on the EDC parcel, differ markedly from those on the PBC parcel. For this reason, the District requests that the Navy add the following sentence to this section:

> At the PBC, where redevelopment of the various buildings may not occur in the near future, ACM not removed by the Navy may remain in place for extended periods of time.

On page 4-96, Section 4.8.2.4.5 discusses lead-based paint and states that future developers will remediate the lead-based paint. As provided above, the circumstances governing both development of the EDC Parcel, and funding for removal of lead-based paint on the EDC parcel, differ markedly from those on the PBC parcel. For this reason, the District requests that the Navy add the following sentence to this section:

> At the PBC, where redevelopment of the various buildings may not occur in the near future, LBP not removed by the Navy may remain in place for extended periods of time.

On page 4-97, Section 4.8.3.1 states that the City of Concord would ensure that future redevelopment activities were compatible with prior remediation activities of the Navy. The District requests that the Navy add the same language suggested for Page 3-97 to Section 4.8.3.1 (pasted again below).

> Certain residual contamination (for example, residual pesticide contamination, TCE contained in soil vapor near buildings, PCB-containing oils contained in electrical equipment) may remain at the former CNWS property. To the extent that it is not remediated pre-transfer, that contamination may remain at the NWS Concord property for extended periods of time, particularly on the PBC parcel, before such contamination is addressed in connection with development of the PBC.

Chapter 4: Section 4.10 Public Services

On pages 4-115, the District requests that the Navy revise the last paragraph, as provided below, to provide a more accurate assessment of how EBRPD's police services will be funded.

> Similarly, EBRPD police services are primarily funded by property tax revenue (EBRPD 2013a, 2014d), and increases in service costs would be partially offset by increased tax revenues.

0014-20

Sections 3.8.6.4 and 4.8.2.4.4 have been updated to reflect the completion of the final basewide asbestos study, which describes the conditions at each of the structures surveyed.

As described in Section 4.8.2.4.4, the transferee assumes responsibility for management of asbestos at the time of transfer and shall comply with existing federal, state, and local laws and regulations independent of the time when construction/demolition activities are conducted.

0014-21

As described in Section 4.8.2.4.5, the transferee assumes responsibility for management of lead-based paint at the time of transfer and shall comply with existing federal, state, and local laws and regulations independent of the time when construction/demolition activities are conducted.

No changes are required to text in Section 4.8.2.4.5.

0014-22

Also please see responses to Comments 14-5 and 14-16. As explained in Section 3.8.2.3, the Navy is required to prepare a FOST (or a FOSET, for Early Transfer) prior to property transfer.

A FOST provides a summary of the environmental conditions and notifications for hazardous substances. The notifications as well as restrictions of certain activities are intended to ensure that post-transfer use of the FOST Parcel is consistent with protection of human health and the environment. These notices and restrictions in the FOST address sites with institutional controls, asbestos-containing material, lead-based paint, PCB-containing equipment, pesticides, petroleum, and munitions and explosives of concern.

Deed notices and restrictions are intended to provide the future property owner with information regarding the environmental conditions at the time of transfer.

The transferee assumes responsibility for management at the time of transfer and shall comply with existing federal, state, and local laws and regulations independent of the time when construction/demolition activities are conducted.

No changes are required to Section 4.8.3.1.

0014-23
Section 4.10 of the FEIS has been revised as suggested.



East Bay Regional Park District

2950 PERALTA OAKS COURT • P.O. BOX 5381 • OAKLAND • CA • 94605-0381
T. 1 888 EBPARKS F. 510 569 4319 TDD. 510 633 0460 WWW.EBPARKS.ORG

Thank you again for the opportunity to comment on draft EIS. We look forward to continuing to work with the Navy, the City of Concord, and other stakeholders to create a world class regional park on the former CNWS. Please feel free to contact me at (510) 544-2623 or bholt@ebparks.org should you have any questions.

Brian Holt
Senior Planner

cc: Bob Nisbet, Assistant General Manager (EBRPD)
Kristina Kelchner, Assistant District Counsel (EBRPD)
David Siegenthaler, Federal Lands to Parks Program (NPS)
Tom Leatherman, Superintendent (NPS)
Gretchen Stromberg, Chief of Planning and Administration (NPS)
Michael Wright, Reuse Project Director (City of Concord)

Enclosure

ATTACHMENT "A"
EBRPD POLICIES APPLICABLE TO DEVELOPMENT OF REGIONAL PARKS

1. NATURAL RESOURCE MANAGEMENT (NRM)

NRM1: The District will maintain, manage, conserve, enhance, and restore park wildland resources to protect essential plant and animal habitat within viable, sustainable ecosystems.

NRM1b: To help mitigate the effects of climate change, the District will endeavor to conserve and connect habitat for native species through its acquisition and planning processes.

NRM2: Plant and animal pest species will be controlled by using integrated pest management (IPM) procedures and practices adopted by the Board of Directors. The District will employ integrated pest management practices to minimize the impact of undesirable species on natural resources and to reduce pest-related health and safety risks to the public within developed facilities and/or high-use recreational areas.

NRM3: The District will manage park wildlands using modern resource management practices based on scientific principles supported by available research. New scientific information will be incorporated into the planning and implementation of District wildland management programs as it becomes available. The District will coordinate with other agencies and organizations in a concerted effort to inventory, evaluate, and manage natural resources and to maintain and enhance the biodiversity of the region.

NRM4: The District will identify, evaluate, conserve, enhance, and restore rare, threatened, endangered, or locally important species of plants and animals and their habitats, using scientific research, field experience, and other proven methodologies. Populations of listed species will be monitored through periodic observations of their condition, size, habitat, reproduction, and distribution. Conservation of rare, threatened, and endangered species of plants and animals and their supporting habitats will take precedence over other activities, if the District determines that the other uses and activities would have a significant adverse effect on these natural resources.

NRM5: The District will maintain and manage vegetation to conserve, enhance, and restore natural plant communities; to preserve and protect populations of rare, threatened, endangered, and sensitive plant species and their habitats; and, where possible, to protect biodiversity and to achieve a high representation of native plants and animals.

NRM8: The District will conserve, enhance and restore biological resources to promote naturally functioning ecosystems. Conservation efforts may involve using managed grazing in accordance with the District's Wildland Management Policies and Guidelines, prescribed burning, mechanical treatments, integrated pest management and/or habitat protection and restoration. Restoration activities may involve the removal of invasive plants and animals or the reintroduction of native or naturalized species adapted to or representative of a given site.

NRM12: The District will manage riparian and other wetland environments and their buffer zones to preserve and enhance the natural and beneficial values of these important resources and to prevent the destruction, loss, or degradation of habitat. The District will participate in the preservation, restoration and management of riparian and wetland areas of regional significance and will not initiate any action that could result in a net decrease in park wetlands. The District will encourage public

access to the Bay/Delta shoreline, but will control access to riparian and wetland areas, when necessary, to protect natural resources.

2. CULTURAL RESOURCE MANAGEMENT (CRM)

CRM1: The District will manage, conserve and, when practical restore parkland cultural and historic resources and sites, to preserve the heritage of the people who occupied this land before the District was established.

CRM2: The District may acquire cultural and historic resource sites when they are within lands that meet parkland acquisition criteria, and will maintain an active archive of its institutional history and the history of its parklands and trails.

CRM3: The District will maintain a current map and written inventory of all cultural features and sites found on park land and will preserve and protect these cultural features and sites "in situ" in accordance with Board policy. The District will evaluate significant cultural and historic sites to determine if they should be nominated for State Historic Landmark status or for the National Register of Historic Places.

CRM4: The District will determine the level of public access to cultural and historic resources using procedures and practices adopted by the Board of Directors. The District will employ generally accepted best management practices to minimize the impact of public use and access on these resources, and to appropriately interpret the significance of these resources on a regional scale.

CRM5: The District will include Native American and other culturally associated peoples in discussions regarding the preservation and land use planning of sites and landscapes significant to their culture.

CRM6: The District will try to accommodate requests by historic preservation groups, Native Americans and other culturally affiliated groups to help maintain and use cultural sites and to play an active volunteer role in their preservation and interpretation.

3. RECREATIONAL FACILITIES AND AREAS (RFA)

RFA2: The District will provide a diverse system of trails to accommodate a variety of recreational users including hikers and joggers, dog owners, bicyclists and equestrians. Both wide and narrow trails will be designed and individually designated to accommodate either single-or multiple users, as appropriate, based on location, recreational intensity, environmental and safety considerations.

RFA4: The District will expand its unpaved multi-use trail system as additional acreage and new parks are added. The District will continue to provide multi-use trails to link parks and to provide access to park visitor destinations.

RFA5: The District will continue to plan for and expand the system of paved, multi-use regional trails connecting parklands and major population centers.

RFA6: The District will continue to develop group and family picnic facilities throughout the parks system and will continue to improve the reservation system.

RFA10: The District will continue to provide special recreational facilities throughout the parklands to broaden the range of opportunities in the parks and to take advantage of existing resources. The

District will ensure that these facilities are compatible with the District's vision and mission, with other parkland resources and priorities, and with public needs and demands.

4. PLANNING FOR REGIONAL PARKS AND TRAILS

PRPT12: To protect park resources while providing for regional recreational use and access, the District will prepare plans (Land Use Plans or System-wide Plans) that describe:

- the various levels of resource protection and recreational intensity in the parks
- development projects and land management strategies for trails and parks.
- planning efforts will include consideration of proposals from the public. The District will strive to create and maintain up-to-date information about each of its parks. Significant changes or amendments to adopted plans will require further public comment and Board action.

PRPT13: Land Use Plans will identify future resource management strategies and recreational use for entire parks and establish appropriate Land Use Designations. The District will continue to prepare Land Use Plans for new parks and will amend existing Land Use Plans as needed to accommodate growth and change.

PRPT17: Where trail alignment is not predetermined by a relationship to established corridors such as roads, railroad rights-of-way, canals, utility corridors, or similar facilities, the District will prepare a study or a plan for the trail, taking into account any factors it deems relevant to alignment and feasibility. After determining a feasible trail alignment, the District will seek to acquire the necessary land tenure and develop the trail for public use. The District may acquire a wider corridor for a proposed trail to provide an enhanced environment for the trail before determining the final alignment for the trail.

PRPT24: The District will seek to locate facilities in a manner that preserves open space whenever possible. The District will design proposed facilities so that their color, scale, style and materials will blend with the natural environment. Park improvements will be designed to avoid or minimize impacts on wildlife habitats, plant populations and other resources.

PRPT27: The District will fully comply with the requirements of the California Environmental Quality Act (CEQA) for the development of new facilities. Evidence of CEQA compliance will be provided in the planning document or separately as a project-specific CEQA document. The District will also comply, when appropriate, with National Environmental Policy Act (NEPA).

From: Hope Johnson [redacted]
Sent: Tuesday, November 25, 2014 11:54 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: Comments on DEIS re Concord NWS

Hello Ms. Spinelli:

Please find below my comments on the Navy's draft EIS report for the Concord Naval Weapons Station.

Thank you for your attention to this matter. I would appreciate receiving a reply to this email confirming that my comments have been received.

Regards,
Hope Johnson
Sun Terrace area resident

COMMENTS

NOTICE

The Navy should have provided mailed notices of the draft EIS and comment meeting on November 13, 2014, to residents within one mile of the Concord Naval Weapons Station ("CNWS"). Notices to residents within 500 feet is ridiculously inadequate, only covering a few blocks of homes. The areas around the CNWS are heavily residential and include at least one nearby elementary school in the Sun Terrace area. My neighbors and I will be permanently affected by the noise, traffic, pollution, construction, and hazardous contaminants associated with this project. We deserve mailed notice because that is the most likely to reach us. I live approximately one mile from the North Concord BART station (a distance of 5280 feet) and walk to BART to commute to work. My environment and health are without question subject to being affected by the project but I live ten times the distance that the Navy considers adequate notice. At the very least, the Navy should mail out periodic paper notices to nearby areas informing residents and schools of where they can get more information or sign up for email lists. Residents new to the area would then also be able to learn about the project. Costs of notice can be minimized by the use of postcards and should be considered during the budget process. Costs of mailing occasional postcards (maybe one or two per year) could be shared with the City of Concord and would considerably less than lawsuits arising from misunderstandings with or deception toward the public. Outreach to the neighborhood groups alone is not effective. I am on the email list for the Sun Terrace Neighborhood Partnership and did not receive any notices of the draft or comment meeting. Many of my neighbors stated they also did know about the draft or meeting. The Navy should also consider placing signs in public spaces or partnering with the North Concord BART station to place notice signs at the entrance to the station.

0015-1

DRAFT EIS COMMENT MEETING

More than one meeting on the draft EIS should have been planned so that people who were not available on the one meeting day could attend. It is not reasonable to assume everyone would be available on one single day. Further, the Navy should have held at least one meeting that briefly explains what the draft EIS is and the type of comments that are appropriate from the public. For example, I have encountered many people who believe that the Navy can choose Alternative 1, 2, or 3. They do not understand that the No Action Alternative is

0015-2

0015-1
As noted in the EIS, the NEPA process incorporates public involvement at several points. With respect to public notices, the Navy's mailing and e-mail list comprised approximately 4,000 residents, elected officials, non-governmental organizations, and other stakeholders. The public was notified during the scoping process and after the DEIS was completed. Notifications also were placed in local publications as prominently located display advertisements for several days prior to each meeting, as well as in the Federal Register. Documentation was also provided to the California State Clearinghouse prior to scoping and following DEIS publication. The Navy sent e-mail notification of availability to stakeholders, including the City, which posted documents on their respective web sites for review and comment.

0015-2
The Navy selected meeting dates that were advertised well in advance and selected a meeting location that was familiar and easily accessible to the public. The open house meetings were held over a period of several hours and afforded attendees the opportunity to speak with the project team. Poster displays described the EIS process, how to comment, and impacts. Documents were also available for review on line and at local repositories, and the DEIS contained an executive summary to provide an abbreviated overview of the proposed action and impacts. Attendees could provide written comments at the meeting and also during the comment periods via mail, e-mail, and fax.

merely a comparison and that the Navy is just demonstrating that Concord's preferred plan is consistent with legal requirements for the Navy to transfer the property to the city. The draft EIS is 948 pages long and uses terminology with which many residents may not be readily familiar. The Navy could have assisted by providing a brief overview of how to read it.

REVISED DRAFT EIS

I do not understand why there is not a revised draft EIS planned prior to the release of the final report and decision so that members of the public can view and comment on the Navy's responses to comments made by the public, interested groups, and government agencies. The Navy provided a revised draft EIS for the Hunters Point Shipyard in San Francisco and should do the same for the CNWS.

VIEWING COMMENTS

Copies of the original submitted comments on the draft EIS should be made available for viewing by the public. The public should be able to compare the Navy's summary and interpretation of comments with the originals to properly analyze the final report. This is reason to issue a revised draft EIS as well. Private information can easily be redacted from the records. Although contact information and other personal information is private, the content of the comments related to the project is public once it is sent to the Navy.

HAZARDOUS MATERIALS REPORT

The hazardous materials report will not be out until after the draft EIS is finalized. There are still 41 sites that need to be investigated for radiological materials; however, the city of Concord can apply for early transfer of the site once the draft EIS is finalized even though this investigation will not be finished. This seems backwards. The Navy will be reporting its decision on human and environmental consequences of the transfer and build out without knowing exactly what hazardous materials are on the property and exactly where. If the city of Concord were to request early transfer and that transfer were granted, then the cleanup of the property would become the responsibility of whatever developer Concord chose instead of the Navy. This could happen prior to the finalization of the hazardous materials report. Unfortunately, developers are not as accountable to the public as the Navy and not subject to the same federal laws regulating clean up as the Navy. The hazardous materials report should be closer to finished before the draft EIS is finalized. My earlier suggestion that there be a revised draft EIS for people to review would help resolve this problem by allowing people time to comment on a revised draft EIS while having more knowledge of what hazardous materials are found in that investigation and the potential for long term diseases. Also, the city of Concord's web site does not address the possibility of early transfer so, again, a meeting held by the Navy that included a brief overview of the draft EIS would help get information out to the public.

WATER

The draft EIS needs to be revised to more adequately take the drought into consideration when assessing whether or not there is enough water supply in the area to accommodate 12,000 new residences. The CCWD report that declared there will be enough water was done in 2010 prior to the drought becoming so drastic.

0015-2 Continued

0015-2 cont'd
Continued from previous page.

0015-3

0015-3 Where a federal agency makes substantial changes to the proposed action that are relevant to its environmental concerns, or where there are significant new circumstances or information relevant to the environmental effects that have bearing on the proposed action or its impacts, a supplement to a draft EIS (DEIS) or final EIS (FEIS) may be prepared. If an agency decides to supplement its DEIS, as in the case of the Navy's supplemental DEIS for the Disposal and Reuse of Hunters Point Shipyard, the agency must prepare, circulate, and file the supplemental DEIS in the same manner as the DEIS. This includes announcing a Notice of Availability and establishment of a public comment period including a public meeting/hearing, response to public comments, and preparation of a supplemental FEIS. With respect to the 2014 Concord BRAC DEIS, there have been no substantial changes to the proposed action or significant new circumstances that would necessitate a supplemental DEIS; thus, an additional comment period is not warranted.

0015-4

0015-5

0015-4
Public comments submitted on the DEIS, and the Navy's responses, can be viewed in Appendix K of the FEIS. Private information is redacted from the public record.

0015-5
As explained in Section 3.8.2.3, the Navy is required to prepare a FOST or FOSET prior to property transfer.

The Navy issued the Draft Final FOST supporting Phase I transfer on June 30, 2016 (TriEco-Tt 2016c). The purpose of the FOST document is to summarize how the requirements and notifications for hazardous substances, petroleum products, and other regulated materials have been satisfied for former NWS Concord for the property to be conveyed in a Phase I transfer under EDC or PBC (Navy August 2016). Section 3.8 (Hazards and Hazardous Substances) of the EIS provides the existing site conditions with respect to the ER Program and compliance programs for hazardous waste and materials for former NWS Concord and has been updated to include information from

current environmental program documents and the current FOST.

Early Transfer Authority (TA) has been granted to state governors or a governor and the U.S. EPA administrator for sites listed on the NPL for property transfer prior to completion of all environmental remediation at bases (Navy August 2006). Under an Early Transfer, property can be conveyed by deed prior to all necessary remediation having been completed, and the Navy or the transferee can conduct the necessary cleanup actions following transfer. A FOSET, similar to a FOST, would be required to document the environmental condition of property including documentation of previous investigations conducted at the sites.

If an Early Transfer was contemplated, an established process would be adhered to that includes public participation prior to review/approval by the governor and U.S. EPA administrator (Navy August 2006). Cleanup actions conducted under CERCLA require oversight and approval by applicable federal and state environmental regulatory agencies.

Regarding investigations for radiological materials, the Navy has conducted fieldwork at 48 sites and is in the process of documenting the findings in Site Inspection (SI)/Scoping Survey reports. The Navy will coordinate with the appropriate federal and state agencies regarding final recommendations for these sites.

Section 3.8.5 has been updated to include the current information above concerning the radiological investigations.

Obviously, the CCWD report needs to be updated. In the last year, the drought has taken on much more significance than this report reflects. In addition, the draft EIS states that, when the amounts that were anticipated for the new build out were calculated, they had to take into consideration that there was less used in 2013 because of the drought; however, it does not go on to make any statements about how a continuing drought would change this analysis. Further, although the draft EIS claims there is an adequate water supply, it goes on to state that conservation methods could reduce the need for water by newly planned communities. We are already struggling to conserve water and face an unknown future about our water supply. This must be addressed in a revised draft EIS.

TOD

The draft EIS fails to analyze whether or not TOD development and "smart growth" actually encourages pedestrian traffic and use of public transportation over vehicular traffic. There appears to be little evidence that TOD development works. The TOD areas of the Walnut Creek and Pleasant Hill BART stations have just created a lot more vehicular traffic and not much more pedestrian traffic. The cities of New York and San Francisco have much better public transportation systems and people there still try to use their cars. A better analysis of this is required in the draft EIS considering the Sun Terrace area is already having problems with overflow parking in their neighborhood when the North Concord BART parking lot is full. In fact, a meeting took place about that parking situation at the same time as the Navy's meeting to comment on the draft EIS. This is unfortunate since the planned build out will only increase those same traffic and parking issues.

MITIGATION ISSUES

Some of the mitigation proposed by the city of Concord is not thoroughly analyzed in the draft EIS. The document is 948 pages on so it is difficult for one individual to review and comment on all the mitigation issues. One example of an item that needs to be further assessed in the report is the widening of Panoramic Drive and Port Chicago Highway to accommodate the what the reports admits will be horrific traffic. There is no analysis of whether or not residents would lose their homes in order to widen these roadways.

IRREPLACABLE VIEWS

Views from the Sun Terrace neighborhood closest to the North Concord BART station are some of the only remaining full views of Mt. Diablo in Concord. The draft EIS hints that these views will be broken up by the high density TOD planned near only the entrance to the North Concord BART station. It does not treat the loss of these views as detrimental, just as something that will occur. Maintaining these irreplaceable views will make the development desirable to people rather than just creating another set of ugly square buildings. The evaluation of placing height limits in this area should be included in this draft EIS to maintain irreplaceable views; especially considering that Concord already has a number of high-rise office buildings in downtown that it can't even currently fill.

0015-6

0015-7

0015-8

0015-9

0015-6
The Navy's EIS was prepared to assess the environmental impacts related to the reuse of NWS Concord. The Contra Costa Water District (CCWD) has responsibility and authority over the delivery and acquisition of water to the County, including the City of Concord. The CCWD has considered the Area Plan in its future projections and would continue to account for future needs, including during periods of drought. In addition, the CCWD recently completed the expansion of the Los Vacqueros Reservoir, which will significantly increase the storage capacity in the district. This information was added to Section 4.12.1.1 of the FEIS to more fully describe water supplies.

0015-7
As stated in Section 1.2, the Navy's disposal of the surplus former NWS Concord property into non-federal ownership and the subsequent reuse of the property by the local community is the focus of the EIS. The purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord during reuse planning that took place between 2008 and 2012. The disposal of surplus property at the former NWS Concord is the responsibility of the Navy, and the EIS evaluated transportation- and traffic-related impacts. As the LRA, the City of Concord is responsible for the implementation of its reuse plan. The City is proposing a number of measures to encourage use of alternate transport modes, including financial, system, and demand incentives. As stated in the Concord Reuse Project Area Plan Climate Action Plan (Climate Action Plan) the City's application of the VMT Reduction Strategies is projected to achieve a 21 percent reduction in transportation-related GHG emissions, which was prepared in response to state and regional targets. The Climate Action Plan elaborates on the planned VMT Reduction Strategies including land use strategies, connected multi-modal transportation networks, parking management, and transportation demand management. The Climate Action Plan also states that VMT strategies are most effective when applied together to impact travel behavior.

The Specific Plan process and CEQA review that will be required of the LRA for entitlement of the property will address traffic mitigation at more appropriate levels of detail.

0015-8

The City has no plans to use private property to support widening or alignment modifications for Panoramic Drive or Port Chicago Highway. However, as noted in the previous comment response, the Specific Plan process and CEQA review that will be required of the LRA for entitlement of the property will address traffic mitigation at more appropriate levels of detail.

0015-9

The EIS is intended to provide an objective view of potential impacts, both positive and adverse, on resources within the Project Area. As noted in the EIS, disposal and redevelopment of the former NWS Concord will change the current visual condition of the installation to include a variety of urban uses and park and recreational facilities, as well as maintaining existing open spaces. A transitional green buffer of varying distances would be developed around the majority of the site, and a network of green corridors are proposed in strategic locations (ridgelines, between districts/villages) that offer opportunities for view corridors from existing neighborhoods and viewpoints around the City of Concord toward Mount Diablo and the Los Medanos Hills. In addition, redevelopment of the site would maintain open space areas that help minimize view obstruction and maintain the existing visual character of parts of the site, particularly east of Mt. Diablo Creek and south of Bailey Road.

Panoramic Drive in the Sun Terrace neighborhood is described as a Key Observation Point (KOP 5). From KOP 5, views of the former NWS Concord would include the Central Greenway, North Concord TOD Neighborhood, and North Concord TOD Core districts. As indicated in the EIS, development of Alternative 1 would be highly visible because it would take place in the middle ground, is at and above eye level, and would take place over a prolonged period of time. The Central greenway would be developed in the middle ground to provide a connection between the North Concord/Martinez BART Station, TOD districts, village neighborhoods, and the adjoining existing communities. The North Concord TOD Core is anticipated to include a combination of mid-rise, mixed-use office, retail, and multi-unit housing development (from five to seven stories in height). The scale of buildings would step down adjacent to the Sun Terrace neighborhood, in the vicinity of KOP 5. Due to the nature and the heights of the proposed development, views of the Los Medanos Hills and ridgelines may be seen above some of the rooflines, in between buildings at roadways, and above and in between vegetative plantings in the Central greenway.

The heights of the buildings in the North Concord TOD Core district in the middle ground would be lower than five to seven stories in order to provide a transition to the Sun Terrace neighborhood. However, the EIS acknowledges that taller buildings in the distance may modify or obscure views of the Los Medanos Hills and ridgelines. Overall contrast between current conditions and Alternative 1 would be moderate to strong for KOP 5.

In accordance with mitigation measures in the Area Plan, future developers of the former NWS Concord will be required by the City of Concord to incorporate design best management practices (BMPs) into site development plans that would minimize impacts on views from State Route 4 (KOP 3) and the Sun Terrace neighborhood (KOP 5). Through the implementation of design BMPs, potential impacts would be mitigated, and views from KOP 3 and KOP 5 would be significantly altered but not substantially degraded, and no significant long-term adverse impacts would result.

The Specific Plan process and CEQA review that will be required of the LRA for entitlement of the property will address visual impacts at more appropriate levels of detail.

From: John Keibel [redacted]
Sent: Wednesday, November 26, 2014 12:50 AM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: NWS Concord EIS Comments

Nov 25, 2014

Director, NAVFAC HQ, BRAC PMO West, c/o Erica Spinelli, NEPA Project Manager:

I was pleased to attend the Nov 13, 2014, public meeting regarding the draft environmental impact statement (DEIS) for the disposal and reuse of the former Naval Weapons Station Seal Beach, Detachment Concord. I appreciate the opportunity now to share comments on this draft document. My comments are offered both as a private citizen and as a member of the Concord Historical Society.

The DEIS clearly represents a great deal of research and careful thought and attention to detail. In its final form it should prove to be a reliable and valuable resource and guide as the disposal and reuse of this former weapons station proceeds.

I will leave specific comments regarding the traffic flow and such to others more qualified. I am familiar with the site's natural and cultural resources. A great deal of study and documentation has been conducted in these areas, as this statement summarizes well. While I would have liked to see the stone cistern (P-07-00860, referenced on page 3-62) classified "NRHP qualified," I differ to the judgment presented in the DEIS. I hope this stone cistern and its immediate surroundings (i.e., nearby pond, "NRHP qualified" bedrock milling facility, nearby pine tree test grove, surrounding magazines and Building 97) might be preserved as an environmental and site history interpretive area. 0016-1

In short, I have no criticisms, only compliments. *May I request a hard copy of the **Final EIS** when available*? I would like to place it in the holdings of the Concord Historical Society. 0016-2

May I note a spelling error? My last name is misspelled four times on pages 3-62, 3-65 and 9-15. 0016-3

Yours truly,

John Keibel

[redacted]

P.S. Please keep me on your mailing list. As for my name and address, you need not keep these private.

Jesus come to obey every commondment we broke.
He came to suffer for every sin we committed.
He came to die the death we deserve.
He received our hell.
He gives us heaven.

0016-1
As described in Section 3.6, P-07-00860 (the stone cistern) was not identified as eligible for listing in the NRHP (Roland-Nawi 2014) in consultation with the CA SHPO and other consulting parties such as the Concord Historical Society and the East Bay Regional Park District.

With respect to the proposed preservation of the stone cistern, the EBRPD will be developing a Land Use Plan that will identify future land uses within the Conservation Open Space Area.

0016-2
All interested parties who requested a copy of the FEIS have received one.

0016-3
Table 3.6-1, Section 3.6.3.1, and Chapter 9 have been revised as suggested.

From: Sylvia Lundy [redacted]
Sent: Saturday, November 22, 2014 3:51 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: Concord Naval Weapons Station

Our family's preference is Alternative 3, the no action alternative.

Best regards,
Sylvia Lundy
[redacted]

0017-1
Comment noted.

0017-1

FRIENDS OF
PORT CHICAGO
NATIONAL
MEMORIAL
portchicagomemorial.org

November 25, 2014

Director, NAVFAC BRAC PMO West
Attn: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900,
San Diego, California 92108-4310
Telephone: 619-532-0980, fax: 619-532-099
erica.spinelli@navy.mil.

RE: Draft Environmental Impact Statement (DEIS) for the Reuse of the Naval Weapons Station Seal Beach Detachment Concord, CA (ER 14/658)

Dear Ms. Spinelli:

I write to you on behalf of the Friends of Port Chicago National Memorial. We appreciate the opportunity to review and comment on the "Draft Environmental Impact Statement (EIS) for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California," dated October 2014. We support both Alternative 1 (the preferred alternative) and Alternative 2. Each of these alternatives provides for 2,537 acres of open space to be owned and managed by the East Bay Regional Park District (EBRPD).

The Port Chicago Naval Magazine National Memorial's enabling legislation allows for a joint visitor center to be established in partnership with EBRPD for the purposes of providing interpretation and education of the Port Chicago disaster and its aftermath to a broad audience. We are excited about the potential for this visitor center to be established on lands conveyed to the EBRPD as part of this planning process. As soon as the Navy conveys this land to EBRPD, we will work with the National Park Service (NPS) and EBRPD in the planning effort for this visitor center.

Sincerely,
Diana McDaniel

Rev. Diana McDaniel
President of the Friends of Port Chicago National Memorial

PO Box 546
San Leandro CA 94577
friendsofportchicago@gmail.com

	Page #	Para-graph #	Com-mentor	Comment
1	N/A	N/A	GMS	**OVERALL COMMENT:** In an effort to maximize the use and relevancy of the new regional park, and in an effort to expose as many people as possible to the nationally significant history of the Port Chicago Naval Magazine National Memorial, we concur with the NPS' specific recommendation for the City of Concord and the future developers of the western portion of the land being conveyed. Although it will be important to provide public transportation and parking areas for privately owned vehicles to access the regional park, in order to maximize use of the regional park by future residents including children, adults, and people with mobility issues, it will be *especially* important to design for safe and pleasant access from within the future residential area *to* the regional park by walking, cycling or other self-propelled methods.
2	ES-5	6	GMS	Conservation Open Space Alternative 1: Please edit last sentence of paragraph to read: "This district would include some limited recreational uses, including trails, shaded seating areas, and interpretive areas including a new visitor center to be co-managed by EBRPD and the National Park Service."
3	ES-6	1	GMS	Please clarify how the Conservation area along the ridgeline of the Los Medanos Hills would be managed under Alternative 2. Currently the text in the Executive Summary says it will be "similar" to Alternative 1. If it is in fact intended to mean identical, not just similar, please state. If there are some differences between the future EBRPD conservation land across the two action alternatives, please specify.
4	ES-6	1	GMS	Conservation Open Space Alternative 2: Similar to comment for Alternative 1: Please include language such as: "This district would include some limited recreational uses, including trails, shaded seating areas, and interpretive areas including a new visitor center to be co-managed by EBRPD and the National Park Service."
7	2-2	2	GMS	Recommend that EBRPD is also recognized (in addition to City of Concord) as responsible for implementing the reuse of this land.
8	2-12	7	GMS	Same comment as Comment Number 2
9	2-15	2	GMS	Same comment as Comment Number 3

0018-1

0018-2

0018-3

0018-4

0018-5

0018-6

0018-7

0018-1
Comment noted.

0018-2
Comment noted. The requested change has not been incorporated because the Area Plan has not been amended; the proposed action evaluated in this EIS remains reuse of the property in a manner consistent with the City of Concord's Area Plan.

Chapter 1.10 of the FEIS, however, indicates that Sections 2, 3, and 4 of the FEIS have been revised to recognize that the EBRPD has begun development of the Concord Hills Regional Park Land Use Plan and will be responsible for completing environmental review as required under CEQA.

0018-3
The Executive Summary has been revised to provide clarification that the Conservation area along the ridgeline of the Los Medanos Hills would be managed as proposed in Alternative 1.

0018-4
Please see response to comment 0018-2.

0018-5
The Navy acknowledges that the EBRPD, as a future property owner and manager of the conservation open space area/regional park, would be implementing reuse of the property. However, the intent of this paragraph is to differentiate between Navy and City responsibilities, specifically in regard to the City's role as the Local Reuse Authority and the party responsible for implementation of the Area Plan. Section 2.1 of the FEIS has been revised to clarify this.

0018-6
Please see response to comment 0018-2.

0018-7
Please see response to comment 0018-3.

From: Michael McDermott [redacted]
Sent: Sunday, November 23, 2014 12:21 AM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: CNWS EIS Feedback

Hi Erica,

I understand you are looking for feedback on the Concord Naval Weapons Station Project options.

I am a 32 year resident of Concord and I have raised my family here. I want to see Concord grow and prosper, with top quality housing for families, good jobs, and recreational opportunities.

My preference is Alternative 1, which I believe has been called the "Clustered Villages" option. This includes 12,200 new housing units and 6.1 million square feet of commercial space.

I am very happy with the extensive community input and the decision making process the City of Concord has used thus far. The "Clustered Villages" plan, selected by a diverse and representative task force from our city, provides the best balance of interests and will hopefully be a wonderful addition to Concord.

Thanks!!!
Mike McDermott
[redacted]

0019-1

0019-1
Comment noted.

From: Pinasco, Jim [redacted]
Sent: Tuesday, November 25, 2014 1:21 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO; Anderson, Scott D CIV NAVFACHQ, BRAC PMO; michael.wright@cityofconcord.org; Lee, Alan K CIV NAVFACHQ, BRAC PMO
Cc: Shrum, Noel@DTSC; Madali, Kristina A CIV NAVFAC SW
Subject: Review and Comment of Draft Environmental Impact Statement (EIS) for the Former Naval Weapons Station Seal Beach

Dear Ms. Spinelli, et. all:

The Department of Toxic Substances Control (DTSC) has reviewed the Document entitled "Draft Environmental Impact Statement (EIS) for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord (NWS Concord), Concord California" dated October 2014. The EIS presents an analysis of the U.S. Department of the Navy's (Navy's) disposal of surplus property at the former NWS Concord, and the subsequent reuse of the property by the local community. EIS sections 3.8 and 4.8 discuss the release of hazardous waste at NWS Concord, and describe the Navy's actions to remediate these releases.

The EIS notes the former NWS Concord was placed on the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) National Priorities List on December 16, 1994. On June 12, 2001, the Navy entered into a Federal Facility Agreement (FFA) with EPA Region 9, the San Francisco Bay Regional Water Quality Control Board (Water Board), and DTSC. The FFA requires that the Navy investigate and remediate actual or threatened releases of hazardous substances, pollutants, and contaminants at the former NWS Concord. The FFA listed the areas and sites considered to be areas of contamination, established goals and responsibilities among the Navy and the regulatory agencies, and set enforceable cleanup schedules for the sites.

0020-1

DTSC will continue to work with the Water Board, EPA Region 9, the Navy, and all interested parties to ensure protection of human health and the environment whenever the Navy transfers property. Please contact me with any questions at (916) 255-9719 or jim.pinasco@dtsc.ca.gov.

0020-2

Respectfully,
Jim Pinasco
project manager
Cleanup Program, Sacramento Office
California Environmental Protection Agency
Department of Toxic Substances Control

0020-1
Comment noted.

0020-2
The Navy concurs. Navy and the environmental regulators are responsible for ensuring protection of human health and the environment prior to and after transfer of the property.

No changes have been made in the EIS text.

From: Millan, Savannah <savannah_millan@ios.doi.gov>
Sent: Tuesday, November 25, 2014 2:09 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Cc: Patricia Port; Loretta Sutton; Gretchen Stromberg; Alan Schmierer; David Siegenthaler; Thomas Leatherman
Subject: ER 14/0658 Comment Letter
Attachments: ER_14_0658_CommentLetter.docx

Hello,

Please find attached the Comment Letter for **ER 14/0658** - *Review of the Draft Environmental Impact Statement (DEIS) for the Reuse of the Naval Weapons Station Seal Beach Detachment Concord, CA.*

Thank you,
--
Savannah Millan
Regional Environmental Intern, Region IX
United States Department of the Interior
Office of Environmental Policy and Compliance
333 Bush St., Suite 515
San Francisco, CA 94104
(415) 296-3356

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
333 Bush Street, Suite 515
San Francisco, CA 94104

IN REPLY REFER TO:
(ER 14/0658)

Filed Electronically

25 November 2014

Ms. Erica Spinelli
NEPA Project Manager
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

Subject: Review of the Draft Environmental Impact Statement (DEIS) for the Reuse of the Naval Weapons Station Seal Beach Detachment Concord, CA

Dear Ms. Spinelli:

Thank you for the opportunity to comment on the Review of the Draft Environmental Impact Statement (DEIS) for the Reuse of the Naval Weapons Station Seal Beach Detachment Concord, CA. We have the following comments to assist your preparation of the Final EIS.

The Department of Interior supports both Alternative 1 (the preferred alternative) and Alternative 2. Each of these alternatives provides for 2,537 acres of open space to be owned and managed by the East Bay Regional Park District (EBRPD)--an element of the plan the Interior has shown support for as demonstrated in the Spring of 2014 when it recommended the Public Benefit Conveyance of these lands to the EBRPD through the Federal Lands to Parks program.

The conveyance of these lands to the EBRPD is supported not just by the larger NPS organization, but also by the managers of the Port Chicago Naval Magazine National Memorial, a local unit within the national park system. The Port Chicago Naval Magazine National Memorial's enabling legislation allows for a joint visitor center to be established in partnership with EBRPD for the purposes of providing interpretation and education of the Port Chicago disaster and its aftermath to a broad audience. We are excited about the potential for this visitor center to be established on lands conveyed to the EBRPD as part of this planning process. As soon as the NPS Federal Lands to Parks program conveys this land to EBRPD, the NPS and EBRPD will be able to move forward with the planning effort for this visitor center.

In addition to expressing our general support of the preferred alternative, the Interior would like to provide a few specific ideas and editorial comments for your consideration. These are included in the attached table. If you have any questions about these comments please contact

0021-1

Please see comment letter 18, which contains responses to comments 1 - 9 in the attached table. With respect to comment 10 in the table, Section 3.6.4 of the FEIS has been corrected per the comment. With respect to comment 11 in the attached table, Table 2.4 notes that Native American resources were not identified through tribal consultation and, as noted in the comment, Section 3.6.4 documents the Navy's finding that Site CA-CCO-680 is eligible for the National Register of Historic Places (NRHP) and that the site "carries religious and cultural significance with regard to contemporary ethnographic perspectives about death and burial." To clarify, these two statements are referring to different categories and definitions of resources and their significance. Despite the NRHP eligibility and significance of Site CA-CCO-680 to contemporary Native American people, consultation with Native American tribes (Federally Recognized Indian Tribes) has not revealed "Native American Resources" such as those meeting the Department of Defense's definition of "Protected Tribal Resources": "Those natural resources and properties of traditional or customary religious or cultural importance, either on or off Indian lands, retained by, or reserved by or for, Indian tribes through treaties, statues, judicial decisions, or executive orders, including tribal trust resources."

0021-1

Gretchen Stromberg, Chief of Planning and Administration, gretchen_stromberg@nps.gov or 510-232-1542 x6302.

Thank you for the opportunity to review this project.

Sincerely,

Patricia Sanderson Port

Patricia Sanderson Port
Regional Environmental Officer

cc:
Gretchen Stromberg, Chief of Planning and Administration, gretchen_stromberg@nps.gov
OEPC Staff Contact: Loretta B. Sutton, (202) 208-7565; Loretta_Sutton@ios.doi.gov

	Page #	Para-graph #	Com-mentor	Comment
1	N/A	N/A	GMS	**OVERALL COMMENT:** In an effort to maximize the use and relevancy of the new regional park, and in an effort to expose as many people as possible to the nationally significant history of the Port Chicago Naval Magazine National Memorial, the NPS has a specific recommendation for the City of Concord and the future developers of the western portion of the land being conveyed. Although it will be important to provide public transportation and parking areas for privately owned vehicles to access the regional park, in order to maximize use of the regional park by future residents including children, adults, and people with mobility issues, it will be *especially* important to design for safe and pleasant access from within the future residential area *to* the regional park by walking, cycling or other self-propelled methods.
2	ES-5	6	GMS	Conservation Open Space Alternative 1: Please edit last sentence of paragraph to read: "This district would include some limited recreational uses, including trails, shaded seating areas, and interpretive areas including a new visitor center to be co-managed by EBRPD and the National Park Service."
3	ES-6	1	GMS	Please clarify how the Conservation area along the ridgeline of the Los Medanos Hills would be managed under Alternative 2. Currently the text in the Executive Summary says it will be "similar" to Alternative 1. If it is in fact intended to mean identical, not just similar, please state. If there are some differences between the future EBRPD conservation land across the two action alternatives, please specify.
4	ES-6	1	GMS	Conservation Open Space Alternative 2: Similar to comment for Alternative 1: Please include language such as: "This district would include some limited recreational uses, including trails, shaded seating areas, and interpretive areas including a new visitor center to be co-managed by EBRPD and the National Park Service."
7	2-2	2	GMS	Recommend that EBRPD is also recognized (in addition to City of Concord) as responsible for implementing the reuse of this land.
8	2-12	7	GMS	Same comment as Comment Number 2
9	2-15	2	GMS	Same comment as Comment Number 3
10	3-66	4	GMS	Elsewhere in the document CA-CCO-680 and P-07-00861 were described as eligible for the NRHP, with SHPO concurrence. In this paragraph they are described both as eligible and potentially eligible. Please clarify--the NPS assumes that the word "potentially" should be deleted.

11	3-81	2	GMS	Site CA-CCO-680: In this paragraph, it is acknowledged that "the site carries religious and cultural significance with regard to contemporary ethnographic perspectives about death and burial" however in Table 2.4, page ES-14, it is stated that there are no "Native American Resources" identified. Please clarify

From: rick r [redacted]
Sent: Saturday, November 22, 2014 7:25 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: Concord Naval Weapons Base.

On Claycord you asked which alternative the reader preferred. I have lived in Concord since 1975 and in the bay area for 65 years. My preference is Alternative 3. I would prefer the Base be cleaned up and left as Open Space. I would like it available for the public to hike around but it should be left pretty much as it is....Charles Rickenbacher

0022-1

0022-1
Comment noted.

From: Jennifer Stokes [redacted]
Sent: Sunday, November 23, 2014 2:40 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Subject: Naval weapons station option #3 please

Please leave it alone! We don't need 12-15 thousand more housing units that will bring in another 50,000+ ppl to Concord! Crime would go up, values would go down. Concord cannot absorb all those ppl!
And I'm a realtor! I know it cld increase my business but the trade off isn't worth it.

Jennifer

Sent from my iPhone

0023-1

0023-1
Comment noted.

As noted in the EIS, the purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord. The need for the proposed action is to provide the local community the opportunity for economic development and job creation.

Alternative 1 (the Preferred Alternative) is reuse of the surplus property consistent with the City of Concord's Area Plan, as adopted. As discussed in Chapter 1, the Area Plan upon which Alternative 1 is based was the result of an extensive reuse planning process that took place between 2008 and 2012 undertaken by the City of Concord, during which seven alternatives were evaluated. All seven of the alternatives were variations on mixed-use development. In accordance with NEPA, the Navy is also evaluating an alternative to the proposed action, Alternative 2 (Intensified Reuse), which is also consistent with the policies developed by the City of Concord during the reuse planning process but represents a higher intensity of use overall.

Please see the EIS for a discussion of socioeconomic impacts (Section 4.3).

From: Griffin, Sue Anne <Sue.Griffin@cityofconcord.org>
Sent: Tuesday, November 25, 2014 1:46 PM
To: Spinelli, Erica L CIV NAVFACHQ, BRAC PMO
Cc: Wright, Michael; Laperchia, Pamela
Subject: L-Spinelli IES Comments 11-25-14_FINAL
Attachments: L-Spinelli EIS Comments 11-25-14_FINAL.pdf

Dear Ms. Spinelli:

Please find attached a letter regarding the Concord Community Reuse Project Draft Environmental Impact Statement Review from Michael Wright, Executive Director, Local Reuse Authority.

Best regards,

Sue Anne
Sue Anne Griffin
Confidential Secretary
City Manager's Office
1950 Parkside Drive, M/S 01A
Concord, CA 94519
(925) 671-3150 or 3490 (vm)
(925) 798-0636 - fax
sue.griffin@cityofconcord.org

CITY OF CONCORD
1950 Parkside Drive
Concord, California 94519-2578
FAX: (925) 671-3218

Telephone: (925) 671-3019

CITY COUNCIL
Timothy S. Grayson, Mayor
Ronald E. Leone, Vice Mayor
Edi E. Birsan
Daniel C. Helix
Laura M. Hoffmeister

Thomas J. Wentling, City Treasurer

Valerie J. Barone, City Manager

November 25, 2014

Director
NAVFAC BRAC PMO West
Attention: Ms. Erica Spinelli
NEPA Project Manager
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

Subject: Concord Community Reuse Project Draft Environmental Impact Statement Review

Dear Ms. Spinelli:

Thank you for the opportunity to comment on the "Draft Environmental Impact Statement (EIS) for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California (October 2014)" (DEIS) prepared by the Department of the Navy (Navy). This letter presents the City of Concord's comments on the DEIS, and continued support for the Navy's disposition of the Inland Area of the Former Naval Weapons Station, which is addressed in more detail in Section 1.4.

Section 1 - Introduction

Section 1.1 - Base Closure

As described in the DEIS, in 2008, the Navy closed the former Naval Weapons Station Seal Beach Detachment Concord (NWS Concord), located in the City of Concord, in accordance with the Defense Base Closure and Realignment (BRAC) Act of 1990, as amended (BRAC Law). Approximately 7,000 acres (60 percent of the land area) was transferred to other Department of Defense and federal agencies. The remaining 5,028 acres were determined surplus to the needs of the federal government (72 Federal Register [FR] 9935). The Navy, in accordance with the BRAC Law is now considering how to dispose of the surplus property.

The BRAC process includes multiple steps from base closure to the ultimate final disposal (conveyance) of federal surplus property from federal ownership. Following the closure decision, BRAC provides for a reuse and disposal planning phase. This phase consists of the local community's reuse planning, identification of the needs of the homeless, environmental impact analysis, and the identification of potential disposal options.

Section 1.2 - Reuse and Disposal Planning

As part of this base reuse and disposal planning phase, in 2005 the City of Concord was designated the Local Reuse Authority (LRA) to plan for the reuse of the surplus property at the former NWS Concord (71 FR 6274). Commencing in the spring of 2006, the City conducted a comprehensive community planning process and evaluated seven alternatives for reuse of the surplus property. These alternatives for reuse of the former NWS Concord were evaluated in an Environmental Impact Report (EIR), conducted in compliance with the California Environmental Quality Act (CEQA) that was certified by the City of Concord in 2010 (Final EIR or FEIR).

In 2012, the City of Concord refined the reuse plan into an area plan, adopted the Concord Reuse Project (CRP) Area Plan (the "Area Plan" or "CRP Area Plan"), certified an Addendum to the Final EIR (EIR Addendum), and amended Concord's citywide Concord 2030 General Plan to include the Area Plan. By incorporating the Area Plan into the General Plan, a document required by the State of California and designated by the courts as the "constitution for future development" in California jurisdictions, the City indicated its policy guidance for reuse of the former NWS Concord.[1] As part of the Area Plan approval process, the City adopted a Mitigation Monitoring and Report Plan (MMRP) that incorporates all of the mitigation measures contained in the certified Final EIR and its Addendum. As such, the local reuse planning and environmental impact analysis have been done, and it will be the responsibility of future developers or owners of the property under the direction of the City of Concord to implement the Area Plan and MMRP-required environmental mitigation measures. These mitigation measures and Area Plan policies are integral components of the Area Plan and will be implemented regardless of whether they are addressed in the Navy's EIS.

Section 1.3 - Site-Wide Resource Planning and Permitting

The Area Plan encourages the City to obtain site-wide permits from State and federal resource agencies and to adopt a site-wide plan that addresses the conservation and restoration of sensitive biological resources. [See CRP Area Plan, Wetlands Conservation Policies (Policy C-7.2), Special Status Species Policies (Policy C-8.7)]. In an effort to implement the Area Plan's policies, the City applied to the U.S. Army Corps of Engineers (ACOE) for an individual Clean Water Act (CWA) permit that would authorize the fill of certain waters of the United States

[1] Since the former NWS Concord is located entirely within the City of Concord, the City's General Plan applies to the entire site. The County of Contra Costa has land use authority over land located outside of the City, in unincorporated areas of Contra Costa County, and its general plan therefore does not apply to the site.

("jurisdictional waters") in connection with the development and creek restoration/flood control activities identified in the CRP Area Plan. The ACOE's issuance of a CWA permit is subject to the federal Endangered Species Act (ESA) and the ACOE is currently consulting with the United States Fish and Wildlife Service (USFWS) to ensure that its permitting action will not jeopardize the continued existence of any species listed as "threatened" or "endangered" under the ESA (50 CFR 402.14(a)).[2] The USFWS's Biological Opinion and associated Incidental Take Statement, which will address the effects of the ACOE's permitting action and the interrelated CRP Area Plan actions, will cover the entire Area Plan and address both CRP Area Plan development and creation, enhancement, and preservation of endangered species' habitats. To further facilitate a site-wide conservation program, the City also intends to process State permits that address both CRP Area Plan development, and site-wide State endangered species, and aquatic resource creation, enhancement, and preservation.

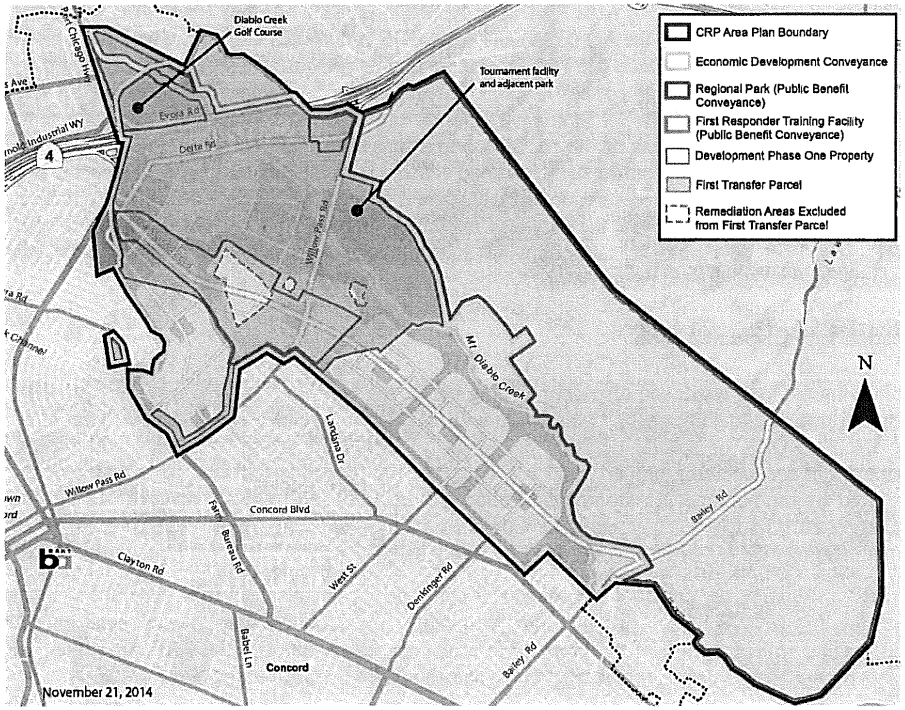
Section 1.4 - Disposal Action

Following the base reuse and disposal planning phase, the Navy entered into a surplus property disposal decision-making phase. This phase will include the issuance of a "Disposal Record of Decision" (ROD), or similar decision document. During this phase, the Navy will review applications for receiving property and will complete the federal environmental review process required by the National Environmental Policy Act of 1969 (NEPA), as amended (42 United States Code [U.S.C.] 4321 *et seq*); the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508); and Navy procedures for implementing NEPA (32 CFR 775). The Navy's final Environmental Impact Statement (EIS), evaluating the potential environmental consequences of disposal from federal ownership of the former NWS Concord and the reasonably foreseeable environmental consequences associated with the reuse of the property in a manner consistent with the CRP Area Plan, will support the Navy's decision-making process and should be included in the Navy's ROD.

The BRAC property disposal action is comprised of three distinct parcels: (1) the Economic Development Conveyance area, (2) the Regional Park/Open Space Area, and (3) the County Sheriff/Fire Training and Command area. (Figure 1) The Navy's DEIS covers all three primary transfers.

[2] Section 7 of the ESA provides that each federal agency must ensure, in consultation with the Secretary of Interior or Commerce, that any actions authorized, funded, or carried out by the agency are "not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of lands determined to be critical habitat." 16 U.S.C. § 1536(a)(2). The term "agency action" is broadly defined in a manner that includes nearly all actions taken by federal agencies as well as actions by private parties which require federal agency permits. 50 C.F.R. § 402.02 (2003).

Figure 1: Disposal Areas



In accordance with the BRAC Law and process, the City of Concord will submit an Application to Acquire Surplus Federal Property through an Economic Development Conveyance for the City development area. The footprint of the City's anticipated Economic Development Conveyance request (the "EDC Footprint") is outlined in yellow in Figure 1, above. The area includes the land within the CRP Area Plan "Planning Area Boundary," excluding the Regional Park outlined in green and the First Responder Training Facility outlined in blue.

The East Bay Regional Park District (EBRPD) submitted an application to the U.S. Department of the Interior to acquire surplus federal property through a Public Benefit Conveyance for the Regional Park area, and that application is under review by the National Park Service. The park would include interpretive and recreational facilities, including trails, passive outdoor recreation facilities, and interpretive centers. Additionally, the site would support extensive habitat restoration and environmental enhancement that will provide mitigation for the development envisioned by the CRP Area Plan within the EDC Footprint.

The Contra Costa County Sheriff's Department and the Contra Costa County Fire Protection District are applying for a Public Benefit Conveyance to construct a joint training facility for first responders. This application has been submitted to the U.S. Department of Homeland Security and will be evaluated by the Federal Emergency Management Agency. The facility would include space for a communications and operations center, as well as administrative offices.

After the Navy has issued its final disposal decision, completing the decision-making phase, the Navy will dispose of the property. The Navy may dispose of the surplus property as one conveyance or convey the property in multiple parcels. Any Public Benefit Conveyance, which includes a federal sponsoring agency other than the Navy, will also require the sponsoring federal agency's approval.

Section 2 - Remediation

Under the BRAC Law, the Navy is responsible for remediating hazardous materials from the site in connection with its disposal action. The EIS should make it clear that the Navy, under BRAC Law, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Section 9601 *et seq*) (CERCLA), and other federal environmental statutes, such as the Resource Conservation and Recovery Act (42 U.S.C Section 6901 *et seq*) (RCRA), is solely responsible for all hazardous substances remediation associated with the Navy's current and former activities at the site, even if the remediation occurs, or becomes necessary, after the Navy has conveyed the property out of federal ownership.

The fourth paragraph of DEIS, 4-75 (Section 4.8.1.1), which explains the contents of Section 120(h) of CERCLA, should disclose that this covenant also requires the Navy to remediate newly discovered hazardous substances found after transfer, if such contamination can be attributed to the Navy. This is the primary reason access is reserved.

The fifth paragraph of DEIS, 4-75 (Section 4.8.1.1), refers to a Memorandum of Agreement (MOA) with the California Department of Toxic Substances Control (DTSC) regarding the implementation of land use or institutional controls. The Navy's Finding of Suitability for Transfer (FOST) or Finding of Suitability for Early Transfer (FOSET) will describe the clean-up actions, characterizing the efforts made to identify hazardous substances and the reports that disclose and assess the nature and extent of those substances, including the various categories of hazardous substances (pesticides, petroleum products, munitions and explosives of concern, polychlorinated biphenyls, etc., and related constituents) that may have been, or continue to be, on a particular site. In addition, the FOST or FOSET will address the covenants, notices, land use restrictions, and institutional controls that should be included in the transfer deed(s). Therefore, an MOA may not be necessary.

The third paragraph on DEIS, 4-77 (Section 4.8.2.1), states the Navy will complete its investigation and remediation activities prior to transfer. This will not be the case if the Navy utilizes CERCLA's "early transfer" process.

0024-1

0024-1
CERCLA § 120(h)(3)(A)(ii) and (B) require that a deed covenant be provided to the future property owner warranting that "all remedial action necessary to protect human health and the environment" and "any additional remedial action found to be necessary after the date of such transfer shall be conducted by the United States."

Section 3.8.2.1 describes key CERCLA requirements pertaining to Navy responsibilities for site cleanup before and after property transfer. Additional clarifying information regarding CERCLA requirements for property deed covenants has been included in Section 3.8.2.3 (Finding of Suitability to Transfer).

0024-2

0024-2
Paragraph 4 under Section 4.8.1.1 is intended to indicate that the implementation and enforcement of Institutional Controls (ICs) are legal mechanisms to ensure that human health and the environment are protected from hazardous substances at a site. In this context, Navy retains access rights in order to ensure the ICs can be enforced through inspections over time.

Per Comment 24-1, Section 3.8.2.3 has been updated to more thoroughly describe CERCLA covenants. No revisions have been made to Section 4.8.1.1. to address this comment.

0024-3

0024-3
To clarify, the 2000 Navy/DTSC MOA referenced in Section 4.8.1.1. is a programmatic-level agreement between the agencies about how to implement CERCLA ICs.

In accordance with the 2000 Navy/DTSC MOA, the Navy intends that CERCLA ICs will be implemented via restrictive covenants in Navy deeds and in Navy/DTSC Covenants to Restrict Use of Property (CRUPs). No additional negotiation or execution of an MOA is necessary to implement a CERCLA IC at NWS Concord.

No changes have been made in the EIS text.

0024-4

0024-4
The following text has been added to the third paragraph of Section 4.8.2.1 and the second paragraph of Section 4.8.3.1. to account for the potential for an early transfer in both Alternatives 1 and 2:
"Additionally, investigation and remediation activities and

regulatory concurrences could be completed under the Early Transfer process discussed in Section 3.8.2.1.”

The "remediation plan" (MMRP Hazardous Materials 4) was included in the MMRP only in the event the property was subject to an early transfer. In that case, the property owner or developer would have to prepare a hazardous material remediation plan, to ensure the property is fit for the intended land use. If the property is transferred under a FOST, the Navy will be required to complete remediation before conveying the property. For example, the Navy will be responsible (either financially or for performing the necessary work needed) for remediation of Site 22 to accommodate residential land uses before completing the conveyance through a FOST. If the Navy makes an early conveyance, through a FOSET, and the clean-up is privatized and addressed through an "Environmental Services Cooperative Agreement" (ESCA), the ESCA will contain a remediation plan that the Navy will pay for and the City will implement. An early transfer with an ESCA will not affect the Navy's obligation or responsibilities under CERCLA (or otherwise affect the application of CERCLA to the site) to complete the clean-up, and the Environmental Protection Agency and other agencies with regulatory authority over hazardous substances will address the required level of clean-up.

Section 4.8.2.4.5 (DEIS, 4-96) states that lead in soil beneath Building IA-25 will not be addressed under the Navy's Environmental Restoration (ER) Program because it is not a release under CERCLA. Lead in the soil is considered a release under CERCLA, and the EIS should be revised accordingly.

Section 3 - Site-Wide and Future Resource Permitting

If the City is able to secure site-wide permits from the ACOE, RWQCB, USFWS, and California Department of Fish and Wildlife as described in Section 1.3, it will streamline future development and conservation activities on the site. As explained in the MMRP, Mitigation Measure Biological Resources 1, if the City has adopted a site-wide plan for conservation and restoration of sensitive biological resources, each remedial action plan or development application will be reviewed for consistency with the plan. If, however, the City does not secure site-wide permits, future property owners or developers would be responsible for securing any necessary State or federal resource permits, and would have to demonstrate to the City that impacts to wetlands, creeks, riparian habitat, and listed species or their habitat have been avoided to the extent practicable (MMRP, Biological Resources Mitigation Measures Biological Resources 1-4).

Although the DEIS acknowledges the City of Concord's site-wide permitting effort, and generally presumes the City will secure such permits, the DEIS also concludes that the City will "coordinate" with the ACOE and the Regional Water Quality Control Board (RWQCB) "regarding specific mitigation requirements" and to "identify applicable permits/approvals" during the City's "review and approval of development applications." (See, e.g., Table 7-1, Water Resources.) As explained above, the City has a CWA permit application pending with the ACOE, which if issued and certified by the RWQCB,[3] will specify the required mitigation

[3] Any permit issued by the ACOE will be subject to certification by the RWQCB that it complies with State water quality standards. 33 U.S.C. § 1341.

0024-5

0024-5
This comment clarifies the City's commitment regarding a Remediation Plan. As discussed in the Response to EPA Comment 11-14, Section 4.8.2.1 of the EIS has been updated to clarify that the City will require a Remediation Plan only in the event of an Early Transfer.

As described in Section 3.8.2.3., the Navy may transfer property after the completion of environmental cleanup and a FOST, or through an Early Transfer and FOSET.

No decisions about an Early Transfer have been made concerning IR Site 22 or other open ER Program sites at the former NWS Concord. In particular, an approach to the cleanup of Site 22 will be identified as the Navy moves through the CERCLA process toward ROD. Should the City of Concord formally request an Early Transfer, the Navy will consider this request in the context of discussions/negotiations regarding the Economic Development Conveyance.

0024-6

0024-6
The third paragraph of Section 4.8.2.4.5 has been updated with the following text:
"Lead from LBP reported to be in soil beneath Building IA-25 (IRP Site 29) is being addressed under the ER Program, as discussed in Section 3.8.3.1.1"

measures, and the City will make all applicable conditions of a site-wide CWA permit (and any other site-wide permits issued to the City) conditions of all City-issued development approvals. However, the City would not coordinate further with these agencies while processing site-specific land use applications on the appropriate mitigation measures, since those measures will be specified in a site-wide permit. Alternatively, if the City does not receive a site-wide permit, the property owner or developer will be required to identify and secure any necessary project-specific permits from those agencies, without involvement by the City.

The DEIS also concludes that "future developers" will be required to minimize impacts to jurisdictional waters "to the maximum extent practicable" under Sections 404 and 401 of the CWA and Section 1600 of the California Fish and Game Code.[4] To be clear, the ACOE in evaluating the City's permit application will evaluate alternatives to the proposed project and will only issue a permit for the least environmentally damaging practicable alternative. This analysis will be conducted as part of the City's CWA permitting process and would only apply to future developers if the ACOE does not issue a site-wide permit to the City and instead considers permits on an as needed, project-by-project basis.

For clarity, the City recommends that the DEIS eliminate any statements suggesting further coordination by the City with the USACE, RWQCB, or other resource agencies regarding project-specific mitigation requirements or other permits/approvals during the City's land use review and approval process. As explained above, the City will either secure site-wide permits and will make compliance with those permits' applicable conditions of any development the City subsequently approves, or in the alternative, future property owners or developers will be responsible for identifying the need for, and securing, any necessary permits from those agencies.

Section 4 - Biological Resources

Section 4.1 - Wetlands and Other Waters

The DEIS notes that there are differences in the acreages presented within the DEIS and from the City's EIR, due to differences in how the site has been mapped. Some of the discrepancies and internal differences may be the result of different mapping techniques or GIS systems, such as modest differences in the size of the golf course or the acreage of various habitats that may be affected by reuse. However, the DEIS-stated acreages for jurisdictional and non-jurisdictional wetlands and other waters appear substantially different, and well beyond differences in mapping techniques or GIS systems. Moreover, the acreages of jurisdictional waters are inconsistent with the ACOE's jurisdictional determination.

On November 8, 2011, the ACOE issued a jurisdictional determination for 23.67 acres of jurisdictional wetlands and 12.83 acres of other jurisdictional waters, for a total of 36.50 acres of CWA jurisdictional waters on the site. In addition, H.T. Harvey & Associates has mapped an

[4] The DEIS repeatedly refers to the "CDFG Code", which presumably refers to the California Fish and Game Code.

0024-7

0024-7
Section 4.5.1.1 was revised to clarify the City's intent to obtain a site-wide Individual Permit and to indicate that in the absence of this permit, future property owners or developers will be responsible for identifying the need for and securing any necessary permits for impacts on wetlands and/or non-wetlands waters.

0024-8

0024-8
This section has been revised to reflect updated information regarding impacts to wetlands and other Waters of the U.S. In June of 2016, the USACE issued a Public Notice announcing their review of an application for an Individual Permit for the Area Plan to address Clean Water Act requirements related to the Project. Section 3.14 and 4.14 have been revised to present water resources data that is consistent with the data used in the USACE Public Notice for the Section 404 Permitting Process. Other sections of the FEIS have been updated for consistency with the Public Notice where appropriate.

additional 12.18 acres of non-jurisdictional waters on the site, which include the golf course ponds and canals. The City has applied to the ACOE to fill up to 11 acres of jurisdictional waters (up to 8.75 acres of wetlands and 2.25 acres of other jurisdictional waters). The actual amount of fill that may be attributable to the Area Plan may be less, in part, because the site remediation the Navy is responsible for under CERCLA will likely result in the loss of some jurisdictional waters, particularly in "Bunker City."

The DEIS reports 35.9 acres jurisdictional and 8.4 acres non-jurisdictional waters on the site, for a total of 44.3 acres of jurisdictional and non-jurisdictional waters (DEIS Table 3.14-1).[5] The DEIS concludes the Area Plan would impact/result in the permanent loss of 22 acres of jurisdictional and non-jurisdictional waters (DEIS, 4-52),[6] and reports that the Area Plan would result in the loss of 16.1 acres of jurisdictional wetlands and 6.1 acres of non-jurisdictional wetlands (DEIS, Tables 2-4 and 4.14-2, and DEIS, 4-174).

Please revise the DEIS to disclose the presence of 36.50 acres of jurisdictional waters and that the City has applied to the ACOE for a permit authorizing the loss of up to 11 acres of jurisdictional waters, including up to 8.75 acres of wetlands and 2.25 acres of other waters. Further, the DEIS should acknowledge that the Area Plan could cause the loss of fewer jurisdictional waters since the site remediation the Navy is responsible for under CERCLA (and which is not attributable to the Area Plan) may result in the permanent loss of jurisdictional wetlands and other waters.

Section 4.2 - California Tiger Salamander

The City concurs with the DEIS' conclusion (Table 3.5-3) that no suitable habitat for California tiger salamanders is present northwest of Willow Pass Road. The City would add that California tiger salamanders are thought to be absent from the area northwest of Willow Pass Road due to the absence of the species during intensive larval surveys conducted on several occasions since the 1980s (most recently in 2011) and during intensive upland surveys in selected areas as part of the Navy's planning for remediation. Those surveys, and their negative results, provide substantial evidence of the species' absence from the area northwest of Willow Pass Road.

Section 4.3 - Eagle Habitat

Tables ES-1 and 2-4 suggest that potential impacts to bald and golden eagles could occur due to "loss or disturbance of an active nest" and that "any future reuse would be required to avoid and minimize potential impacts to eagles and compensate for impacts to the species' habitat per the

[5] Elsewhere, the DEIS reports approximately 48.9 acres of wetlands and other waters on the site (DEIS, Table 3.5-2).

[6] According to Tables ES-2 and 2-4, the Area Plan would result in the loss of approximately 22.1 acres of wetlands and impact 8,408 linear feet of jurisdictional waters.

0024-8 Continued

0024-8 cont'd
The FEIS has been revised to present the avoidance and minimization measures, as well as fill estimates for the development related to the Area Plan, as described in the USACE Public Notice, published in June of 2016. Mitigation as discussed in the USACE Public Notice, has also been presented to demonstrate that any adverse impacts will be adequately mitigated through the Section 404 permitting process. The FEIS has also been revised to indicate that if the City does not attain a site-wide Individual Permit, that future developers or property owners will be responsible for identifying the need for and securing any necessary permits to fill waters of the US. These changes have been added to Sections 3.5, 3.14, 4.5, and 4.14, and Chapters 6 and 7.

0024-9

0024-9
Comment noted

protections afforded by the MBTA, BGEPA, and CDFG Codes."[7] As discussed in the DEIS, no known bald eagle nests are located in the vicinity of the site, and only one immature bald eagle has ever been detected on the site, in 1982 (DEIS, 4-59). A breeding pair of golden eagles nests along the eastern boundary of the site, in the Regional Park/Open Space Area that will be owned and controlled by the EBRPD (see Section 1.4). The EBRPD will be responsible for ensuring that its recreational or other activities do not disturb eagles or their nests, not the City as Table 7-1 suggests. Given the substantial distance, varied topography between the EDC Footprint and the eastern site boundary, development activities would not result in any golden eagle disturbance, nest destruction, or other action requiring a special permit under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act.

Section 5 - Greenhouse Gas Emissions

The CRP Area Plan includes Book Three: Climate Action Plan and other mitigation measures to reduce greenhouse gas (GHG) emissions. (See, e.g., MMRP Mitigation Measure Air Quality 1 and Mitigation Measure Air Quality 3). The Climate Action Plan was reviewed by the Bay Area Air Quality Management District and is a "Qualified Greenhouse Gas Plan" under CEQA, and all future Area Plan development within the EDC Footprint will be subject to the Climate Action Plan and MMRP mitigation measures.

The discussion of both Alternatives in the DEIS concludes that each of them would meet target greenhouse gas (GHG) emissions and would not have a significant contribution to cumulative impacts related to GHG emissions (DEIS, 4-36, 39, 43). The City agrees with this conclusion.

However, the DEIS's cumulative impacts summary, in Table 5-2, indicates that new growth in the CRP Area is likely to contribute to a significant cumulative impact on GHG emissions. There is no analysis in the chapter supporting why "yes" was indicated in this table, and this conclusion seems to be inconsistent with the DEIS's other findings — namely, that neither Alternative would make a significant contribution to cumulative GHG emissions. Based on the analysis in the DEIS, we believe the conclusion in Table 5-2 should be "no."

Section 6 - Job and Population Projections

The DEIS provides job and population figures that are inconsistent both internally and with the City's EIR. As noted in Table 4.11-2 of the DEIS, the Transportation, Traffic, and Circulation section uses different figures from the other portions of the document.

Describing the predicted Area Plan-generated population, DEIS Tables 4.3-3 and 4.3-5 estimate a larger buildout population but fewer residential units and jobs than the CRP Area Plan EIR Addendum (see Table 1, below). The discussion of transportation, traffic, and circulation

[7] The discussion on DEIS, 4-59-4-60 does not identify any development, recreational, or other activity that is likely to trigger the need for any eagle-specific permitting or compensatory mitigation, and the City is not aware of any activity that would the need for an eagle permit.

0024-10

Table 7-1 in the FEIS has been revised to additionally indicate EBRPD's responsibility for ensuring that its activities avoid and minimize disturbance of golden eagles or nests or other species covered by the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act.

0024-11

Implementation of the Area Plan is not likely to contribute to a significant cumulative impact. The typographical error in Table 5-2 under GHG emissions was corrected to "no."

0024-12

As described in Section 4.1 of the Final EIS, in accordance with NEPA, the Navy conducted a separate evaluation of the potential environmental and socioeconomic impacts of reuse of the former NWS Concord as the reuse of the former Navy facility is a reasonably foreseeable consequence of the Navy's disposal action. This analysis was conducted independently of the City's analysis and is not meant to be consistent with the FEIR or the FEIR Addendum on all points. Updated demographic information, minor revisions to the proposed redevelopment plan that reflected further refinements to the plan, and the development of Alternative 2 and the No Action Alternative all resulted in differences in population and employment estimations between the FEIS and the FEIR and the FEIR Addendum.

Both the socioeconomic analysis in Section 4.3 and the traffic/transportation analysis in Section 4.11 rely on the most current data available at the time of writing. In the case of the socioeconomic analysis, the most up-to-date demographic data available for the City of Concord were from the U.S. Bureau of the Census's 2012 American Community Survey. For the traffic/transportation analysis the most up-to-date model available at the time of writing was the CCTA Countywide Travel Demand Model, updated in 2012, and the associated Technical Procedures, which were adopted by CCTA in early 2013. The forecasts used for the build-out conditions in the updated traffic model incorporated the latest land use and population projections developed by the Association of Bay Area Governments (ABAG), which were published in 2009. These projections included future development throughout the region through 2040, including estimations for the potential reuse of the former NWS Concord.

By utilizing the most current available data, and thus utilizing different data sources for each of these resource areas, some minor inconsistencies are present when comparing the two sections in terms of population and job creation estimates.

However, given the larger conceptual nature of the proposed redevelopment plan and the EIS, and the fact that these estimates differ by approximately only 7% - 11%, the overall impact of these differences on the EIS impact analysis is negligible. The level of magnitude of the potential socioeconomic and traffic/transportation impacts and the potential significance of these impacts are not affected by the differences caused by utilizing different data sources. Therefore, it was deemed appropriate to utilize the most current data possible for each resource area.

impacts in the Section 4.11 of the DEIS discloses different population estimates from those provided in Section 4.3, and those predictions are virtually the same as the CRP Area Plan EIR Addendum population estimates. It is clear that the numbers in Section 4.11 are based on those in the City's EIR, while the other sections of the EIS used information from the American Community Survey in 2012 to derive population (DEIS, 4-20) and from the U.S. Bureau of Economic Analysis in 2013 to derive employment (DEIS, 4-18). The DEIS, however, does not provide an explanation as to why it is acceptable to use these different figures or the effects the different population projections have on the environmental consequences.

Table 1: Summary of Population Estimates — DEIS and CRP Area Plan EIR Addendum

Topic	CRP EIR Addendum Table 1	DEIS Table 4.11-2 Transportation - Alternative 1	DEIS Tables 4.3-3 and 4.3-5 Alternative 1
Residential units	12,270	N/A	12,200
Population	28,800	28,861	32,387
Employment	26,380	26,531	24,594

Section 7 - Traffic Impacts

The DEIS reached some substantially different conclusions than the City's CEQA analysis regarding the Area Plan's potential effects on traffic and physical roadway improvements beyond those planned in the City's capital improvement program that are contrary to City policy actions. The differences in the traffic analysis are noted below, and conflicts with the City of Concord's traffic and transportation policies are also addressed. For the reasons discussed below, the EIS should not presume the City will implement any physical roadway improvements, and the physical improvements included in the DEIS should be eliminated from the final EIS.

Section 7.1 - Projected Levels of Service

Despite using population and employment numbers for CRP Area Plan buildout that are generally consistent with the CRP Area Plan EIR Addendum (as explained in Section 6), the DEIS reached substantially different conclusions regarding the level of service (LOS) at several intersections than the CRP Area Plan Final EIR Addendum. For instance, the DEIS concludes the northbound off-ramp from I-680 at Ygnacio Valley Road intersection will experience an LOS A under the Area Plan, compared to the CRP Area Plan Final EIR Addendum's conclusion that the intersection will experience LOS F conditions. Conversely, the DEIS concludes the Area Plan will cause the San Marco Boulevard — Willow Pass Road/SR 4 eastbound ramps intersection to experience LOS F conditions in the AM peak and PM peak travel periods, whereas the Reuse Plan Final EIR concludes the intersection will experience LOS C and E conditions during the AM peak and PM peak travel periods. There may be explanations for these differences, including the possibility that additional volume was forecast, physical

0024-12 cont'd
Comment and response continued from previous page.

0024-13
0024-12 Continued
The differences in the LOS results between the EIS and the Reuse Plan EIR and the Area Plan EIR Addendum are shown in a new appendix to the FEIS, H-2, and discussed in Section 4.11.1 of the FEIS, which discusses the methodology used to conduct the traffic analysis. The differences in LOS results can be largely attributed to differences in the baseline conditions and the models used to forecast the traffic on area roadways and highways over the approximately 7-year period between when the analysis was completed for the Reuse Plan EIR and when the analysis was completed for the EIS.

Specifically, the differences in the baseline conditions and the models include:

-New Traffic Counts. Baseline (existing) traffic conditions in the Reuse Plan EIR were based on traffic counts in 2007; baseline traffic conditions in the EIS were based on traffic counts in 2013. The 2013 counts represent an overall decrease in volumes at the analysis intersections when compared with the 2007 counts for the same intersections, with a few exceptions where the total intersection volumes increased in 2013. A table presenting the total volumes at intersections during the AM and PM peak hours in 2007 and 2013 has been included in Section 3.11.3 of the FEIS. The decrease in traffic volumes between 2007 and 2013 appears to be primarily related to the economic conditions in these time periods. The 2007 counts precede the economic downturn associated with the recession. While the recovery appears to have been complete by 2013 in other parts of the region, particularly, San Francisco and Silicon Valley, the 2013 counts used for the EIS indicate that the local economy had not fully returned to pre-recession conditions. Therefore, the lower traffic counts in 2013 appear related to fewer worker commutes due to lower employment. The discussion of the differences in the traffic counts between the Reuse Plan EIR and the EIS has been clarified in Section 3.11.3.

0024-13

-Updated Highway Capacity Manual Methodologies. For the roadway, freeway mainline, and ramp analysis, the EIR used the 2000 Highway Capacity Manual methodologies while the EIS used the 2010 Highway Capacity Manual methodologies.

-Updated CCTA Countywide Travel Model. The CCTA Countywide Travel Model was updated after the traffic analysis was completed for the Reuse Plan EIR. In the updated model, the horizon year for the forecasted growth projections is 2040,

whereas in the previous model, the horizon year was 2030. In addition, the updated model incorporates the new land use and socioeconomic assumptions for background growth for the forecast year, which are based on a more recent Association of Bay Area Governments (ABAG) growth projection that reflects the region's 2013 Sustainable Communities Strategy (SCS). This updated model represented the best tool available for forecasting traffic volumes at the county level at the time of the EIS analysis. Updates to the model reflect not only the changes in the inputs, such as land use and socio-economic data from ABAG and transportation networks from the most recent Countywide Transportation Plan, but also include revisions to the model processes that attempt to better represent travel behavior, specifically making the model more sensitive to transit-oriented development and pedestrian-oriented streetscapes.

-Roadway Improvements. At a few locations (6 intersections, 11 freeway mainline, and 4 ramps), the geometric assumptions differed between the EIR and EIS, which also contributed to the differences in the LOS results.

Overall, these differences between the EIR and EIS analysis resulted in several locations where the LOS improved primarily due to the decrease in either baseline (existing) counts and/or forecast future volumes. However, there are a few locations where the LOS degraded when compared with the EIR results. Generally, the LOS at locations to the west of the project site in Walnut Creek and portions of Concord improved due to lower future traffic volumes when compared with the 2030 volumes in the EIR. At a few locations to the east towards Pittsburg, the future volumes increased when compared with the 2030 volumes in the EIR. For example, notable increases in future volumes occurred at the intersections of Willow Pass Road/Evora Road (west) (AM), Willow Pass Road/SR-4 WB ramps (AM), Willow Pass Road/Evora Road (East CC) (AM), San Marco Boulevard/Willow Pass Road (AM and PM), and San Marco Boulevard/W. Leland Road (AM and PM), when compared with the EIR 2030 volumes. This increase can be attributed to roadway network improvements that provide access to the planned growth at the Pittsburg-Bay Point BART station with an estimated 1,800 additional households and 2,000 jobs, as reflected in the ABAG growth projections.

In response to the City comments regarding LOS results at specific locations:

-Intersection of the I-680 northbound off-ramp and Ygnacio Valley Road: The LOS A result was due to a reporting error. The LOS and v/c were analyzed correctly as shown in the LOS

calculations in the Transportation Impact Study (TIS) (see Appendix 2 in the TIS), but were not reported correctly in Table 20 of the TIS. The correct result is LOS F with 1.00 v/c during both the AM and PM peak hours for Alternative 1 and 2. The correct result for the No Action Alternative is LOS F with 1.00 v/c during the AM peak hour and LOS F with 1.02 v/c during the PM peak hour. A second reporting error at the intersection of San Marco Boulevard and West Leland Road was also found. The LOS and v/c were analyzed correctly as shown in the LOS calculations in the TIS (see Appendix 2 in the TIS) but were not reported correctly in Table 20 of the TIS. The correct result for Alternative 1 is LOS D with 0.89 v/c in the AM peak hour and LOS D with 0.85 v/c in the PM peak hour. The correct result for Alternative 2 is LOS D with 0.87 v/c in the AM peak hour and LOS D with 0.89 v/c in the PM peak hour. The correct result for the No Action alternative is LOS D with 0.84 v/c in the AM peak hour and LOS C with 0.72 v/c in the PM peak hour. These results have been updated in Table 4.11-9 in the FEIS, with appropriate text edits to reflect the corrected results. In addition, the TIS has been included as Appendix H to the FEIS; the results were updated in Table 20.

-Intersection of San Marco Boulevard and Willow Pass Road/SR 4 eastbound ramps: The total baseline count in 2013 was higher than in 2007 by 20 percent in the AM and 21 percent in the PM, while the future volumes were also higher by 33 percent in the AM and 37 percent in the PM. These increases in the future volumes can be attributed to the future roadway connection of Leland Road to Avila Road, which results in increased volumes on San Marco Boulevard, as well as the planned Priority Development Areas around the Pittsburg-Bay Point BART station from the Plan Bay Area. Thus, the LOS at this location degraded to LOS F, when compared to the EIR.

geometry was changed, or the LOS thresholds were changed. However, the DEIS does not explain the substantial differences in the anticipated levels of service.

Section 7.2 - Physical Roadway Improvements

DEIS Tables 4-11.9 through 4-11.12 list physical traffic improvements the DEIS expects the City will implement at specific locations to mitigate traffic impacts, even though the "city plans to mitigate transportation impacts through implementation of design standards in the Action Plan and other TDM [transportation demand management] strategies to reduce VMT [vehicle miles traveled]..." The DEIS acknowledges the City policy presented in the MMRP (see, e.g., measures Transportation 3 and 4) to undertake TDM to mitigate transportation impacts, rather than capacity-increasing physical improvements. Through the MMRP, the City also committed to monitoring the roadway network to understand how TDM was performing as mitigation. This approach is described in the FEIR on page 4-114: "as a policy matter, the City will implement TDM measures rather than roadway widening, as wider roads in residential neighborhoods and urban locations would encourage the use of automobile travel and discourage walking by increasing exposure of pedestrians during crossings."

The City adopted a Statement of Overriding Considerations in conjunction with certification of the Reuse Plan FEIR. The Statement of Overriding Considerations identifies significant and unavoidable impacts to transportation (freeway segments, freeway ramps, roadway segments, intersections, and the performance of regional routes), but found that these impacts were outweighed by the benefits to the community of the Preferred Alternative.[8]

Despite these past City policy actions, the DEIS includes specific capacity-increasing physical traffic improvements. For example, DEIS Table 7-1 states that the City of Concord will implement a mitigation measure (Mitigation Measure TT-1) to "[e]nsure that roadway or traffic-flow improvements are incorporated as needed into development proposals to mitigate the impacts of the increase in traffic volume on level of service (LOS). These improvements would be coordinated with appropriate local and regional traffic and transportation planning agencies, **and may include widening roadways to provide dedicated turning lanes, widening roadways to provide dedicated receiving lanes for through traffic, and other similar projects**" (emphasis added). Table 7-1 assumes the City will take steps to place these projects on "improvement program lists and/or identif[y] needed mitigation measures on final permits and authorizations as a condition of approval by the city."

"Mitigation Measure TT-1" should be removed from Table 7-1. The mitigation measure columns in Tables 4-11.9 through 4-11.12 should also be removed from the final EIS.

[8] The Concentration and Conservation alternative defined in the Reuse Plan FEIR.

0024-14

0024-14
As stated in the City of Concord's comment, the EIS acknowledges the City of Concord policy presented in the 2010 Mitigation Monitoring and Reporting Program (MMRP) to undertake TDM strategies to reduce vehicle miles traveled (VMT) to mitigate transportation impacts, rather than capacity-increasing physical improvements. Section 4.11 of the FEIS has been updated to include additional language describing the City of Concord's approach to TDM, the associated planning process, the monitoring process planned over time, and the coordination that will occur with the appropriate jurisdictions.

As originally stated in the City of Concord's Response to Comments on the August 2009 Draft Revised Environmental Impact Report (2010 RTC) it remains too early to identify specific physical or operational traffic mitigation measures at individual locations for implementation since the project is still in an early planning phase. As such, Section 4.11 of the FEIS and Tables 4-11.9 through 4-11.12 identify capacity-increasing physical improvement measures that may be considered by the City of Concord if future conditions warrant. The mitigation language has been modified in the FEIS to clarify that intent without removing the mitigation measure column as requested by the comment. The mitigation measure headings of Tables 4-11.9 through 4-11.12 have been revised to "Physical Improvement Measures that May Be Considered in Accordance with the Adopted MMRP." Likewise, Table 7-1 has been revised to incorporate additional detail on TDM strategies and the coordination with affected jurisdictions that will be required as part of the adopted MMRP process addressing physical roadway improvements. The City of Concord may consider physical improvement measures such as those identified in the EIS after more detailed planning studies, design and engineering are conducted in conjunction with the master developer, and coordination with affected jurisdictions is completed. This approach is in alignment with the transportation actions outlined in the MMRP.

Future coordination with affected jurisdictions will be required to reach agreement on specific capacity-increasing physical improvements. As stated in the 2010 Concord Community Reuse Plan Final Environmental Impact Report and the 2010 MMRP, the City of Concord has committed to coordinate with "affected jurisdictions prior to the approval of a specific development with the goal of reaching agreement on the appropriate mitigation measures to address impacts in the respective agencies' jurisdiction. The City of Concord will work collaboratively with affected jurisdictions to identify specific performance criteria to mitigate the impact. Mitigation measures may include capacity

increases, Transportation Demand Management (TDM) measures, arterial traffic management tools, and adaptive timing technology upgrades." The City of Concord will confirm required mitigation measures and identify specific performance criteria with affected jurisdictions each time the City of Concord approves a development plan or discretionary entitlement (MMRP 2010).

The City appreciates the Navy's consideration of its comments in the preparation of its EIS, and will continue to work with the Navy to convey the NWS Concord from federal ownership.

Sincerely,

Michael Wright
Executive Director
Local Reuse Authority

cc: Mayor and City Council
Valerie Barone, City Manager
Mark Coon, City Attorney
Ms. Jane Hicks, U.S. Army Corps of Engineers
Shawn Zovod, Ebbin Moser + Skaggs
David S. Knisely, Garrity and Knisely

NWS Concord EIS

Comment Sheet

Thank you for attending today's open house public meeting. You are invited and encouraged to review and comment on the Draft Environmental Impact Statement. Your comments will be incorporated into the public record and will be responded to in the Final EIS.

The Draft EIS is available for viewing at the following locations:

- **Concord Library,** 2900 Salvio Street, Concord, CA 94519
- **Pittsburg Library,** 80 Power Avenue, Pittsburg, CA 94565
- **Pleasant Hill Library,** 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following website: *http://www.bracpmo.navy.mil.*

Written comments may be submitted in one of the following four ways:

(1) fill out this comment sheet and drop it into a comment box before leaving today's meeting
(2) mail your comments using this form (see address below)
(3) email your comments to *erica.spinelli@navy.mil*
(4) fax comments to (619) 532-0995, ATTN: Concord EIS

All comments must be postmarked, faxed or emailed by midnight on November 25, 2014.

Review of Quality of Life & Development plans do not address "Green Building"
During initial town Hall Meeting Green Building was placed as a high priority.
The City must require all commercial construction be Green and that new housing Developements use solar power and be a Requirment for Developers to receive approval.

0025-1

PLEASE PRINT * ADDITIONAL ROOM IS PROVIDED ON BACK

1. **Name** Bernhard Grossen
2. **Address** [redacted]
3. **Email** [redacted]
4. **Please check here** ☐ **if you would NOT like to be on the mailing list**
5. **Please check here** ☐ **if you would like your name/address kept private**
6. **Would you like to receive a hard copy** ☐ **or CD** ☐ **of the FINAL EIS when available?**

Please drop this form into one of the comment boxes here today or mail to:

Director, NAVFAC HQ, BRAC PMO West
Attn.: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900 • San Diego, CA 92108-4310

YOUR INPUT MATTERS

0025-1
The purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord during reuse planning that took place between 2008 and 2012. The need for the proposed action is to provide the local community the opportunity for economic development and job creation. As mentioned in the EIS, as the LRA, the City of Concord is responsible for the implementation of its reuse plan. The future developer or owner of the property will be responsible for acquiring applicable building permits, development approvals, and environmental permits for development of the property.

NWS Concord EIS
Comment Sheet

Thank you for attending today's open house public meeting. You are invited and encouraged to review and comment on the Draft Environmental Impact Statement. Your comments will be incorporated into the public record and will be responded to in the Final EIS.

The Draft EIS is available for viewing at the following locations:

- **Concord Library,** 2900 Salvio Street, Concord, CA 94519
- **Pittsburg Library,** 80 Power Avenue, Pittsburg, CA 94565
- **Pleasant Hill Library,** 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following website: *http://www.bracpmo.navy.mil.*

Written comments may be submitted in one of the following four ways:

(1) fill out this comment sheet and drop it into a comment box before leaving today's meeting
(2) mail your comments using this form (see address below)
(3) email your comments to *erica.spinelli@navy.mil*
(4) fax comments to (619) 532-0995, ATTN: Concord EIS

All comments must be postmarked, faxed or emailed by midnight on November 25, 2014.

Alternative 1 is WONDERFUL! SUFFICIENT NUMBER OF RESIDENCES WITH OPEN SPACE THAT THE WHOLE BAY AREA WILL ENVY. IN CLEANING UP SITE USE ENVIRONMENTALLY FRIENDLY METHODS. TRAFFIC CONSIDERATIONS - CURRENTLY HIGHWAY 4 IS CLOGGED. THE ADDITION OF 12,000+ RESIDENCES WILL CLOG MORE. INFRA STRUCTURE AROUND DEVELOPMENT NEEDS TO BE CONSIDERED AND BUILT PRIOR TO THIS PROJECT ROLLING OUT. WITH THE REMOVAL OF LARGE AMOUNTS OF NATURAL HABITAT CONSIDERATION SHOULD BE GIVEN TO PRESERVING AND REPLACING WITH LOCAL PLANTS AS MUCH AS POSSIBLE. LIVING WAGE JOBS SHOULD BE THE GOAL IN EVERY STEP OF (OVER)

PLEASE PRINT * ADDITIONAL ROOM IS PROVIDED ON BACK

1. **Name** Sue Guest
2. **Address** [redacted]
3. **Email** [redacted]
4. **Please check here** ☐ **if you would NOT like to be on the mailing list**
5. **Please check here** ☐ **if you would like your name/address kept private**
6. **Would you like to receive a hard copy** ☐ **or CD** ☐ **of the FINAL EIS when available?**

Please drop this form into one of the comment boxes here today or mail to:

Director, NAVFAC HQ, BRAC PMO West
Attn.: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900 • San Diego, CA 92108-4310

YOUR INPUT MATTERS

PLEASE PRINT

THIS DEVELOPMENT. AND last but not least perhaps in the long run we can bring back the tule elk that were taken away.

Please make sure all trails + bike paths connect!

Respect + honor the people who live in concord who will live next to this large development.

LOVE ALTERNATIVE #1

Please drop this form into one of the comment boxes here today or mail to:

Director, NAVFAC HQ, BRAC PMO West
Attn.: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900 • San Diego, CA 92108-4310

YOUR INPUT MATTERS

1002846.0010.03/Concord-Comment Sheet.ai-10/01/14

0026-1

0026-1
As mentioned in the EIS, Alternative 1 is the reuse of the property in a manner consistent with the City of Concord's Area Plan. Please see the EIS for discussions of socioeconomics, biological resources, hazardous materials and remediation, and traffic and transportation (Sections 4.3, 4.5, 4.8, and 4.11, respectively).

NWS Concord EIS
Comment Sheet

Thank you for attending today's open house public meeting. You are invited and encouraged to review and comment on the Draft Environmental Impact Statement. Your comments will be incorporated into the public record and will be responded to in the Final EIS.

The Draft EIS is available for viewing at the following locations:

- **Concord Library,** 2900 Salvio Street, Concord, CA 94519
- **Pittsburg Library,** 80 Power Avenue, Pittsburg, CA 94565
- **Pleasant Hill Library,** 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following website: *http://www.bracpmo.navy.mil.*

Written comments may be submitted in one of the following four ways:

(1) fill out this comment sheet and drop it into a comment box before leaving today's meeting
(2) mail your comments using this form (see address below)
(3) email your comments to *erica.spinelli@navy.mil*
(4) fax comments to (619) 532-0995, ATTN: Concord EIS

All comments must be postmarked, faxed or emailed by midnight on November 25, 2014.

SAVE MOUNT DIABLO SUPPORTS ALTERNATIVE 1, THE PREFERRED ALTERNATIVE

0027-1

PLEASE PRINT * ADDITIONAL ROOM IS PROVIDED ON BACK

1. **Name** SETH ADAMS
2. **Address** SAVE MOUNT DIABLO, [redacted]
3. **Email** [redacted]
4. **Please check here** ☐ **if you would NOT like to be on the mailing list**
5. **Please check here** ☐ **if you would like your name/address kept private**
6. **Would you like to receive a hard copy** ☐ **or CD** ☒ **of the FINAL EIS when available?**

Please drop this form into one of the comment boxes here today or mail to:

Director, NAVFAC HQ, BRAC PMO West
Attn.: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900 • San Diego, CA 92108-4310

YOUR INPUT MATTERS

0027-1
Comment noted.

NWS Concord EIS
Comment Sheet

Thank you for attending today's open house public meeting. You are invited and encouraged to review and comment on the Draft Environmental Impact Statement. Your comments will be incorporated into the public record and will be responded to in the Final EIS.

The Draft EIS is available for viewing at the following locations:

- **Concord Library,** 2900 Salvio Street, Concord, CA 94519
- **Pittsburg Library,** 80 Power Avenue, Pittsburg, CA 94565
- **Pleasant Hill Library,** 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following website: *http://www.bracpmo.navy.mil.*

Written comments may be submitted in one of the following four ways:

(1) fill out this comment sheet and drop it into a comment box before leaving today's meeting
(2) mail your comments using this form (see address below)
(3) email your comments to *erica.spinelli@navy.mil*
(4) fax comments to (619) 532-0995, ATTN: Concord EIS

All comments must be postmarked, faxed or emailed by midnight on November 25, 2014.

OF THE TWO CHOICES GIVEN; I, AS A NEARBY RESIDENT, AM FOR ALTERNATIVE #1.

0028-1

PLEASE PRINT * ADDITIONAL ROOM IS PROVIDED ON BACK

1. **Name** [redacted]
2. **Address** [redacted]
3. **Email** [redacted]
4. **Please check here** ☐ **if you would NOT like to be on the mailing list**
5. **Please check here** ☒ **if you would like your name/address kept private**
6. **Would you like to receive a hard copy** ☐ **or CD** ☐ **of the FINAL EIS when available?**

Please drop this form into one of the comment boxes here today or mail to:

Director, NAVFAC HQ, BRAC PMO West
Attn.: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900 • San Diego, CA 92108-4310

YOUR INPUT MATTERS

0028-1
Comment noted.

NWS Concord EIS
Comment Sheet

Thank you for attending today's open house public meeting. You are invited and encouraged to review and comment on the Draft Environmental Impact Statement. Your comments will be incorporated into the public record and will be responded to in the Final EIS.

The Draft EIS is available for viewing at the following locations:

- **Concord Library,** 2900 Salvio Street, Concord, CA 94519
- **Pittsburg Library,** 80 Power Avenue, Pittsburg, CA 94565
- **Pleasant Hill Library,** 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following website: *http://www.bracpmo.navy.mil.*

Written comments may be submitted in one of the following four ways:

(1) fill out this comment sheet and drop it into a comment box before leaving today's meeting
(2) mail your comments using this form (see address below)
(3) email your comments to *erica.spinelli@navy.mil*
(4) fax comments to (619) 532-0995, ATTN: Concord EIS

All comments must be postmarked, faxed or emailed by midnight on November 25, 2014.

Why isn't the Navy making a formal presentation? Why isn't the Navy overlapping the City of Concord's certified programmatic EIR over the Navy's draft EIS? I request that such a presentation be made during the public comment period.

PLEASE PRINT * ADDITIONAL ROOM IS PROVIDED ON BACK

1. **Name** [redacted]
2. **Address** [redacted]
3. **Email** [redacted]
4. **Please check here** ☐ **if you would NOT like to be on the mailing list**
5. **Please check here** ☑ **if you would like your name/address kept private**
6. **Would you like to receive a hard copy** ☑ **or CD** ☐ **of the FINAL EIS when available?**

Please drop this form into one of the comment boxes here today or mail to:

Director, NAVFAC HQ, BRAC PMO West
Attn.: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900 • San Diego, CA 92108-4310

YOUR INPUT MATTERS

0029-1

0029-1
The Navy finds that the open house format (as utilized for the November 2014 public meeting) effectively allows the Navy to 1) share information about our NEPA EIS analysis and 2) engage with members of the public at individual poster stations to address questions and hear feedback. Alternative 1 in the Navy's EIS includes reuse of the property in a manner consistent with the City of Concord's Area Plan, for which the City certified an EIR. The Navy considered the City's certified EIR and EIR addendum in its independent NEPA analysis documented in the EIS. As relevant and appropriate, the FEIS identifies and explains substantive differences between the EIR and the EIS.

NWS Concord EIS
Comment Sheet

Thank you for attending today's open house public meeting. You are invited and encouraged to review and comment on the Draft Environmental Impact Statement. Your comments will be incorporated into the public record and will be responded to in the Final EIS.

The Draft EIS is available for viewing at the following locations:

- **Concord Library,** 2900 Salvio Street, Concord, CA 94519
- **Pittsburg Library,** 80 Power Avenue, Pittsburg, CA 94565
- **Pleasant Hill Library,** 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following website: *http://www.bracpmo.navy.mil.*

Written comments may be submitted in one of the following four ways:

(1) fill out this comment sheet and drop it into a comment box before leaving today's meeting
(2) mail your comments using this form (see address below)
(3) email your comments to *erica.spinelli@navy.mil*
(4) fax comments to (619) 532-0995, ATTN: Concord EIS

All comments must be postmarked, faxed or emailed by midnight on November 25, 2014.

We are strongly in support of alternative 1. 0030-1

PLEASE PRINT * ADDITIONAL ROOM IS PROVIDED ON BACK

1. **Name** Margaret Hanlon-Gadie, Exec. Dir.
2. **Address** Contra Costa Labor Council [redacted]
3. **Email** [redacted]
4. **Please check here** ☑ **if you would NOT like to be on the mailing list**
5. **Please check here** ☐ **if you would like your name/address kept private**
6. **Would you like to receive a hard copy** ☐ **or CD** ☐ **of the FINAL EIS when available?**

Please drop this form into one of the comment boxes here today or mail to:

Director, NAVFAC HQ, BRAC PMO West
Attn.: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900 • San Diego, CA 92108-4310

YOUR INPUT MATTERS

0030-1
Comment noted.

NWS Concord EIS
Comment Sheet

Thank you for attending today's open house public meeting. You are invited and encouraged to review and comment on the Draft Environmental Impact Statement. Your comments will be incorporated into the public record and will be responded to in the Final EIS.

The Draft EIS is available for viewing at the following locations:

- **Concord Library,** 2900 Salvio Street, Concord, CA 94519
- **Pittsburg Library,** 80 Power Avenue, Pittsburg, CA 94565
- **Pleasant Hill Library,** 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following website: *http://www.bracpmo.navy.mil.*

Written comments may be submitted in one of the following four ways:

(1) fill out this comment sheet and drop it into a comment box before leaving today's meeting
(2) mail your comments using this form (see address below)
(3) email your comments to *erica.spinelli@navy.mil*
(4) fax comments to (619) 532-0995, ATTN: Concord EIS

All comments must be postmarked, faxed or emailed by midnight on November 25, 2014.

DEFINATELY PREFER ALTERNATIVE #1

WILLOW PASS ROAD IS ALREADY HEAVILY TRAFFICKED THE ROAD WILL NEED HUGE EXPANSION

0031-1

PLEASE PRINT * ADDITIONAL ROOM IS PROVIDED ON BACK

1. **Name** [redacted]
2. **Address** [redacted]
3. **Email** [redacted]
4. **Please check here** ☐ **if you would NOT like to be on the mailing list**
5. **Please check here** ☒ **if you would like your name/address kept private**
6. **Would you like to receive a hard copy** ☐ **or CD** ☐ **of the FINAL EIS when available?**

Please drop this form into one of the comment boxes here today or mail to:

Director, NAVFAC HQ, BRAC PMO West
Attn.: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900 • San Diego, CA 92108-4310

YOUR INPUT MATTERS

0031-1
Comment noted.

NWS Concord EIS
Comment Sheet

Thank you for attending today's open house public meeting. You are invited and encouraged to review and comment on the Draft Environmental Impact Statement. Your comments will be incorporated into the public record and will be responded to in the Final EIS.

The Draft EIS is available for viewing at the following locations:

- **Concord Library,** 2900 Salvio Street, Concord, CA 94519
- **Pittsburg Library,** 80 Power Avenue, Pittsburg, CA 94565
- **Pleasant Hill Library,** 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following website: *http://www.bracpmo.navy.mil.*

Written comments may be submitted in one of the following four ways:

(1) fill out this comment sheet and drop it into a comment box before leaving today's meeting
(2) mail your comments using this form (see address below)
(3) email your comments to *erica.spinelli@navy.mil*
(4) fax comments to (619) 532-0995, ATTN: Concord EIS

All comments must be postmarked, faxed or emailed by midnight on November 25, 2014.

Details although limited at this time need to be developed under the traffic studies. Such as possibilities of widening Denkinger and West. The impact to existing roads is important to the local citizens

0032-1

PLEASE PRINT * ADDITIONAL ROOM IS PROVIDED ON BACK

1. **Name** ROSANNE NIETO
2. **Address** [redacted]
3. **Email** [redacted]
4. **Please check here** ☐ **if you would NOT like to be on the mailing list**
5. **Please check here** ☐ **if you would like your name/address kept private**
6. **Would you like to receive a hard copy** ☐ **or CD** ☒ **of the FINAL EIS when available?**

Please drop this form into one of the comment boxes here today or mail to:

Director, NAVFAC HQ, BRAC PMO West
Attn.: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900 • San Diego, CA 92108-4310

YOUR INPUT MATTERS

0032-1
Traffic and transportation impacts are discussed in FEIS Section 4.11 and Appendix H (Transportation Impact Study).

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
P.O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-6053
FAX (510) 286-5559
TTY 711
www.dot.ca.gov

Serious Drought.
Help save water!

November 24, 2014

CCVAR018
CC-4-680-242-VAR
SCH# 2013032045

Ms. Erica Spinelli
Department of the Navy (DOD)
1455 Frazee Road, Suite 900
San Diego, CA 92108

Dear Ms. Spinelli:

Disposal and Reuse of the Former NWS Seal Beach, Detachment Concord, Concord, CA – Draft Environmental Impact Statement (DEIS)

Thank you for continuing to include the California Department of Transportation (Caltrans) in the environmental review process for the project referenced above. We have reviewed the DEIS and have the following comments to offer.

Forecasting
Page ES-3 and ES-5 states that Alternative 1 and 2 contain 30% mixed-use and 70% conservation of parks or recreation land uses. Page ES-19 shows the proposed Alternative 1 and 2 projects 203 and 205 have 229,301 daily trips respectively to the new and existing road network. Page 4-128 / Table 4.11-5 indicates 252,760 daily person trips under Alternative 1 versus 287,374 daily person trips under Alternative 2. Based upon information mentioned above, Caltrans believes either alternative 1 or 2 would likely cause significant traffic impacts upon the surrounding Interstate (I-) 680, State Route (SR) 4, and SR 242. Please investigate and document ways to mitigate the impacts your project will have on the State Highway System (SHS).

Caltrans recommends the traffic impact study should include AM and PM turning movement traffic per study intersection, queuing length, and other traffic operation parameters under Existing, Project Only, 2035 Cumulative and 2035+Project Conditions.

Traffic Operations
Please include in your analysis of project trips traveling to the west and south of I-680/ SR 24 interchange, and to the east of SR 4. A detailed analysis / evaluation of impacts are needed in order to discuss respective mitigation or fair share for the SHS.

0033-1
The Transportation Impact Study (TIS) for the Navy's 2014 DEIS is included as Appendix H of the FEIS. The TIS examines the current transportation network and addresses the environmental effects on the future circulation system from implementing the three alternatives of the proposed action (Action) for the former NWS Concord. The Caltrans comments are primarily technical in nature and the TIS provides the technical background for the EIS transportation analysis.

This comment requests an analysis of the State Highway System (SHS) and documentation of associated mitigation in the EIS. The analysis presented in the EIS and in TIS Sections 3.4.3 and 3.4.4 covered impacts on the SHS, specifically, 12 mainline segments—6 segments on I-680, 1 segment on SR 242, and 5 segments on SR 4—as well as 21 ramps - 3 ramps on I-680, 3 ramps on SR 242, and 15 ramps on SR 4. The analysis found impacts at 4 freeway segments and 16 ramps; however, many of these locations would experience substandard operations under the No Action Alternative as shown in Tables 4-11.1 and 4.11-12 of the FEIS. To mitigate these impacts on the SHS, TDM programs have been adopted through an amendment to the Concord 2030 General Plan that will reduce the use of automobiles and lessen traffic impacts. As stated in the MMRP, the City of Concord will coordinate with affected jurisdictions on specific mitigation measures prior to the approval of a development plan or discretionary entitlement. The goal of coordination is to address the traffic impacts in the respective agencies' jurisdiction through appropriate mitigation measures, which may include TDM measures and physical roadway improvements that increase capacity. In addition, the City of Concord will require developers to contribute to the TRANSPAC Subregional Transportation Mitigation Fee Program to fund transportation improvements.

0033-1

Table 7-1 has been revised to incorporate additional detail on TDM strategies and the coordination with affected jurisdictions that will be required as part of the City of Concord's adopted MMRP process addressing physical roadway improvements. The DEIS references the City of Concord's traffic impact fee in accordance with the TRANSPAC Subregional Transportation Mitigation Fee Program in Section 4.11.2 and Table 7-1.

0033-2

0033-3

0033-2
This comment is related to turning movement traffic. The TIS provides intersection turning movements for the AM and PM peak for Existing, 2040 No Action, 2040 Alternative 1 project, and

2040 Alternative 2 project. Turning movements were not provided for Project-only trips due to the nature of the approach, which was not additive. Rather, the updated CCTA Countywide Model was used to capture not only the trips generated by the Project, but also the interaction between the Project and its local context by capturing trips from adjacent land uses and travel patterns that reflect the capacity of the roadway. Intersection lane configurations and turning movement diagrams are provided in Appendix 1 of the TIS.

Queue lengths were not reported since the performance metric to determine significance was level of service (LOS). The length of the ramps was input as part of the analysis. Given the programmatic nature of the Proposed Action and long build-out horizon year, detailed queue analysis, which is more appropriate for project-level analysis, was not conducted as part of the EIS. Freeway ramp analysis worksheets are provided in Appendix 4 of the TIS.

0033-3
This comment is related to trip distribution. The trip distribution as shown in Table 18 of the TIS shows where trips are going to and coming from based on the model during the AM and PM peak hours, which are the time periods for which the analyses were conducted. The trip distribution includes trips traveling to the west and south of the I-680/SR 24 interchange as well as to the east of SR 4. The project trip generation is also shown in Figure 4.11-2 of the FEIS. This trip distribution shows vehicle trips on the roadway network but does not include the trips to employment centers in the west or south that are accessed via transit, specifically, BART.

Specific mitigation measures and fair share contributions will be determined as part of specific project-level analyses. As indicated in the response to comment 0024-14, FEIS Table 7-1 has been revised to incorporate additional detail on TDM strategies and the coordination with affected jurisdictions that will be required as part of the City of Concord's adopted MMRP process addressing physical roadway improvements. In the 2010 MMRP, the City of Concord committed to conducting a Nexus Study, required pursuant to the Mitigation Fee Act, for the entire former NWS Concord site to establish an equitable traffic impact-fee rate for each land use category to ensure that future development projects will contribute a fair share of the unfunded costs of planned improvements and mitigation measures. In the MMRP, the City of Concord also committed to requiring future developers to contribute a traffic impact fee in accordance with the

TRANSPAC Subregional Transportation Mitigation Fee Program requirements of the Central County Action Plan for Routes of Regional Significance. The FEIS references the City of Concord's Nexus Study and the traffic impact fee in accordance with the TRANSPAC Subregional Transportation Mitigation Fee Program in Section 4.11.2 and Table 7-1.

On page 3-151, Table 3.11-2 Study Locations, the Ygnacio Valley corridor should be included in the DEIS, specifically, near / I-680 at the SR 24 / I-680 interchange. There is currently no indication of project trip generation directed towards employment centers in the west or south. Note that in Figure 4.11-2 Trip Distribution, it does not indicate south or west project trip generation. Delay Index is not sufficient for use for the SHS or on adjacent intersections.

With over 200,000 project trips generated per day (Alternative 1 & 2), all ramps should be included in Traffic Impact Study (TIS). Low capacity facilities should be included since a low demand could still have an impact such as SR 242 / Grant Street and Olivera Road ramps. Local intersections directly impacting operations of off-ramps with the risk of potential back-up onto mainline need to be included in the TIS. Also, mainline segments to be included are I-680 from SR 24 to SR 4, SR 4 from I-680 to the Railroad Interchange, and the SR 242 corridor.

P 3-157, Table 3.11-4 Traffic Volumes, please use Caltrans census volumes received from the Caltrans Census Unit for mainline and ramps. Volumes used on SR 4 seem very high (i.e. WB at 8,733 vehicles per hour). Please provide tables and calculations used in analysis. Please explain how your analysis was conducted for Table 3.11-9 (level-of-service). For more information on Caltrans Census volumes please contact Ron Kyutoku, Branch Chief at 510-286-4640.

Should you have any questions regarding this letter, please call Keith Wayne of my staff at 510-286-5737 or keith_wayne@dot.ca.gov.

Sincerely,

ERIK ALM, AICP
District Branch Chief
Local Development - Intergovernmental Review

c: Scott Morgan, State Clearinghouse

0033-4

0033-5

0033-6

0033-4
This comment is related to study locations, trip distribution, and the Delay Index measurement. Study locations were identified based on the comments received from the scoping meeting as well as findings from previous studies performed for the City of Concord for this site. The analysis included the following intersections on Ygnacio Valley Road: I-680 NB Off- Ramp, Bancroft Road-Walnut Ave, Oak Grove Road, and Ayers Road. The intersection of Ygnacio Valley Road at the I-680 NB Off-Ramp is at the SR 24/I-680 interchange and was selected as a critical intersection in this area based on the findings from previous studies for the former NWS Concord site. A detailed description of the selection process is provided in Section 3.2 of the TIS and Section 3.11.2 of the FEIS.

The project trip generation as shown in the Final Figure 4.11-2 shows smaller percentages of project vehicle trips to and from the south and west (to and from the City of Concord and to and from Central Contra Costa County). This trip distribution shows vehicle trips on the roadway network but does not include the trips to employment centers in the west or south that are accessed via transit, specifically, BART. Table 18 in the TIS provides additional detail on trip distribution and shows where vehicle trips would go during the AM and PM peak hours, which are the time periods for which the analyses were conducted.

The Delay Index was calculated per the Multimodal Transportation Service Objectives (MTSO) from the adopted Central and East County Action Plans (2009) for the freeways that are Routes of Regional Significance. Therefore, the Delay Index is applied for the purposes of analyzing the MTSOs. A detailed description of MTSOs and the Delay Index is provided in Section 3.4.5 of the TIS. In addition, the Highway Capacity Manual methodologies were used for the freeway mainline and ramps as well as the intersections to determine the level of service (LOS), per Caltrans traffic impact study guidelines.

0033-5
This comment is related to trip generation and the inclusion of ramps and mainline segments in the TIS. The EIS and TIS covered 21 ramps on I-680, SR 242, and SR 4. For local intersections that directly impact operations of off-ramps, the analysis intersections were selected based on the previous studies that have been conducted for the former NWS Concord site. The selection of ramp locations was based on a subset of the 40 ramps analyzed in the 2010 Final Reuse Plan EIR, which were found to exceed performance thresholds. Low capacity

facilities where impacts were not identified in the 2010 Final Reuse Plan EIR were screened out through this selection process. Mainline segments included I-680 from south of Monument Boulevard to SR 4, SR 242, and SR 4 from SR 242 to east of Railroad Avenue. A detailed description of the selection process is provided in Section 3.2 of the TIS and Section 3.11.2 of the EIS. Please see responses to comments 0033-1 and 0033-4 for additional information regarding impacts on the State Highway System and study locations.

0033-6
This comment is related to traffic volume sources and the analysis provided in the TIS. The freeway counts were compiled from a number of sources, including the SR 4/SR242 Ramp Metering Study as well as Caltrans' Performance Measurement System (PeMS) data, as documented in the TIS Section 3.3. Further documentation of the count sources and assumptions used to develop the peak hour volumes are provided in the TIS footnotes in Section 3.3. At the time of the analysis, this was the best available data from Caltrans. The freeway volumes and ramp volumes used for the ramp analysis are provided in Appendix 4 of the TIS. The methodology for calculating the freeway mainline LOS shown in the FEIS Table 3.11-9 is described in Section 3.4.3 of the TIS.

Edmund G. Brown Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Ken Alex
Director

November 25, 2014

Erica Spinelli
Department of the Navy (DOD)
1455 Frazee Road, Suite 900
San Diego, CA 92108

Subject: Disposal and Reuse of the Naval Weapons Station Seal Beach Detachment Concord
SCH#: 2013032045

Dear Erica Spinelli:

The State Clearinghouse submitted the above named Draft EIS to selected state agencies for review. The review period closed on November 24, 2014, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

0034-1

0034-1
Comment noted.

Document Details Report
State Clearinghouse Data Base

SCH# 2013032045
Project Title Disposal and Reuse of the Naval Weapons Station Seal Beach Detachment Concord
Lead Agency U.S. Navy

Type EIS Draft EIS

Description This Draft EIS presents an analysis of the Navy's disposal of surplus property at the former NWS Seal Beach, Detachment Concord, in the City of Concord, Contra Costa County, CA, and the subsequent redevelopment of the property by the local community. The Navy has declared approx. 5,028 acres of property at the former NWS Concord to be surplus to the needs of the federal government. The EIS examines the potential human and natural environmental consequences of the proposed action and any impacts associated with the reasonably foreseeable reuse of the property. Two redevelopment alternatives and a No Action Alternative were considered. Alternative 1 (Preferred Alternative) is the disposal of the surplus property and reused in accordance with the Concord Reuse Project Area Plan as adopted by the City of Concord. Alternative 2 (Intensified Reuse) represents a higher intensity of use overall. The No Action Alternative is the retention of the surplus property in caretaker status.

Lead Agency Contact

Name Erica Spinelli
Agency Department of the Navy (DOD)
Phone 619 532 0980 **Fax**
email
Address 1455 Frazee Road, Suite 900
City San Diego **State** CA **Zip** 92108

Project Location

County Contra Costa
City Concord
Region
Lat / Long
Cross Streets Port Chicago Highway and SR 4
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways SR 4, SR 242
Airports Buchanan
Railways BART
Waterways Suisun Bay, Mt. Diablo Creek, Clayton Canal
Schools Monte Gardens ES
Land Use GP: Public/Quasi-Public-Concord Naval Weapons Station-Inland Area; Zoning: S

Project Issues Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Coastal Zone; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects; Aesthetic/Visual

Reviewing Agencies Department of Fish and Wildlife, Region 3; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 4; Air Resources Board; Regional Water Quality Control Board, Region 2; Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; Resources Agency; California Coastal Commission; Caltrans, Division of Aeronautics

Document Details Report
State Clearinghouse Data Base

Date Received 10/10/2014 **Start of Review** 10/10/2014 **End of Review** 11/24/2014

Appendix L Public Notification for Draft EIS

This page intentionally left blank.

site at *www.navyf35cwestcoasteis.com,* along with the Final EIS U.S. Navy F–35C West Coast Homebasing, dated May 2014 and supporting documents. Single copies of the ROD are available upon request by contacting: U.S. Navy F–35C EIS Project Manager, Naval Facilities Engineering Command Southwest, Attn: Code EV21.AK, 1220 Pacific Highway, Building 1, 5th Floor, San Diego, California 92132.

Dated: October 6, 2014.

N.A. Hagerty-Ford,

Commander, Office of the Judge Advocate General, U.S. Navy, Federal Register Liaison Officer.

[FR Doc. 2014–24224 Filed 10–9–14; 8:45 am]

BILLING CODE 3810–FF–P

DEPARTMENT OF DEFENSE

Department of the Navy

Notice of Public Hearing for the Draft Environmental Impact Statement for the Disposal and Reuse of Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California

AGENCY: Department of the Navy, DoD.

ACTION: Notice.

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA) of 1969 (Pub. L. 91–190, 42 United States Code [U.S.C.] 4321–4347), as implemented by the Council on Environmental Quality Regulations implementing NEPA (40 Code of Federal Regulations [CFR] parts 1500–1508), the Department of the Navy (DoN) has prepared and filed the Draft Environmental Impact Statement (EIS) to evaluate the potential environmental consequences associated with the disposal of the former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California (NWS Concord), and its subsequent reuse by the local community. The DoN is initiating a 45-day public comment period to provide the community an opportunity to comment on the Draft EIS. Federal, state, and local elected officials and agencies and the public are encouraged to provide written comments. A public meeting will also be held to provide information and receive written comments on the Draft EIS.

Dates and Addresses: An open house public meeting will be held at the location listed below and will allow individuals to review and comment on the information presented in the Draft EIS. DoN representatives will be available during the open house to clarify information presented in the Draft EIS as necessary. There will not be a formal presentation.

Thursday, November 13, 2014 (4:00 p.m. to 8:00 p.m.), Concord Senior Citizens Center (Wisteria Room), 2727 Parkside Circle, Concord, California 94519.

FOR FURTHER INFORMATION CONTACT: Director, NAVFAC BRAC PMO West, Attn: Ms. Erica Spinelli, NEPA Project Manager, 1455 Frazee Road, Suite 900, San Diego, California 92108–4310, telephone: 619–532–0980, fax: 619–532–0995; email: *erica.spinelli@navy.mil.*

For more information on the NWS Concord EIS, visit the Navy BRAC PMO Web site (*http://www.bracpmo.navy.mil/*).

SUPPLEMENTARY INFORMATION: The DoN has prepared the Draft EIS for the Disposal and Reuse of the Former NWS Concord in accordance with the requirements of NEPA (42 U.S.C. Sections 4321–4347) and its implementing regulations (40 CFR Parts 1500–1508). A Notice of Intent (NOI) to prepare this Draft EIS was published in the **Federal Register** on March 14, 2013 (**Federal Register**, Vol. 78, No. 50/Friday, March 14, 2013/Notices). The DoN is the lead agency for the proposed action, with the U.S. Army Corps of Engineers serving as a cooperating agency for the preparation of this EIS.

The DoN closed the former NWS Concord on September 30, 2008, in accordance with Public Law (Pub. L.) 101–510, the Defense Base Closure and Realignment Act (DBCRA) of 1990, as amended in 2005. The DBCRA exempts the decision-making process of the Defense Base Closure and Realignment Commission from the requirements of NEPA. The DBCRA also relieves the DoN from the NEPA requirements to consider the need for closing, realigning, or transferring functions and from looking at alternative installations to close or realign. However, in accordance with NEPA, before disposing of any real property, the DoN must analyze the environmental effects of the disposal.

The purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord during reuse planning that took place between 2008 and 2012. The need for the proposed action is to provide the local community the opportunity for economic development and job creation.

The Draft EIS has considered two redevelopment alternatives for the disposal and reuse of NWS Concord. Both redevelopment alternatives would be generally consistent with the policies developed by the City of Concord during the reuse planning process that took place between 2008 and 2012. Both alternatives focus on the preservation of a significant amount of open space and conservation areas, and sustainable development characterized by walkable neighborhoods, transit-oriented development, and "complete streets" that balance multiple types of transportation. Under both alternatives, most installation facilities would be demolished, and the western side of the property would be developed as a series of mixed-use "development districts," with a higher concentration of development at the north end, near State Route 4 and the North Concord/Martinez Bay Area Rapid Transit Station. Redevelopment under either alternative would include parks and open spaces, best management practices for stormwater management, and green and sustainable design and planning principles. Full build-out under either alternative would be implemented over a 25-year period. A No Action alternative was also considered, as required by NEPA and to provide a point of comparison for assessing impacts of the redevelopment alternatives.

Alternative 1 includes the disposal of the former NWS Concord by the DoN and its reuse in a manner consistent with the adopted Concord Reuse Project (CRP) Area Plan. This alternative has been identified as the Preferred Alternative by the DoN. Under this alternative, redevelopment of approximately 2,500 acres of the former installation property would take place and would include a mix of land use types and densities. This alternative would also result in the preservation of a significant area of open space and conservation areas. The redevelopment would include approximately 6.1 million square feet of commercial floor space and up to 12,272 residential housing units.

Alternative 2 provides for the disposal of the former installation property by the DoN and its reuse in a manner similar to the Area Plan but with a higher density of residential development than under Alternative 1 and within a smaller footprint. Under this alternative, redevelopment of approximately 2,200 acres of the former installation property with a mix of land use types and densities would take place. This alternative would also include the preservation of a significant amount of open space and conservation areas. The alternative calls for approximately 6.1 million square feet of

commercial building space and up to 15,872 residential housing units. Alternative 2 as presented in the Draft EIS is different from Alternative 2 as presented in the NOI circulated during the public scoping period in March and April 2013. Alternative 2 was revised by the DoN in response to comments received during the public scoping period to be more consistent with the land use planning policies adopted by the City of Concord as well as known and foreseeable market conditions. Comments on Alternative 2 received during the scoping period addressed the smaller area designated for conservation and open space in this alternative, as well as concerns regarding higher levels of traffic, noise, and air impacts. Accordingly, the revised Alternative 2 is more similar to the adopted policies of the City of Concord as expressed in the CRP Area Plan, reflecting a similar but slightly smaller development footprint and representing a realistic reuse scenario.

The No Action Alternative is also analyzed in the Draft EIS, as required by NEPA. Under this alternative, NWS Concord would be retained by the U.S. government in caretaker status. No reuse or redevelopment would occur.

The Draft EIS addresses potential environmental impacts under each alternative associated with land use and zoning; socioeconomics and environmental justice; air quality and greenhouse gases; biological resources; cultural resources; topography, geology, and soils; hazards and hazardous substances; noise; public services; transportation, traffic, and circulation; utilities and infrastructure; visual resources and aesthetics; and water resources. The analysis addresses direct and indirect impacts, and accounts for cumulative impacts from other foreseeable federal, state, or local activities at and around the former NWS Concord property. The DoN conducted a scoping process to identify community concerns and local issues that should be addressed in the EIS. The DoN considered the comments provided, which identified specific issues or topics of environmental concern, in determining the scope of the EIS. The Draft EIS identifies significant adverse impacts to air quality and traffic, and significant beneficial impacts to socioeconomics and public services. The Draft EIS has been distributed to various federal, state, and local agencies, as well as other interested individuals and organizations.

Federal, state, and local agencies, as well as interested members of the public, are invited and encouraged to review and comment on the Draft EIS. The Draft EIS is available for viewing at the following locations:

Concord Library, 2900 Salvio Street, Concord, CA 94519

Pittsburg Library, 80 Power Avenue, Pittsburg, CA 94565

Pleasant Hill Library, 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following Web site: *http://www.bracpmo.navy.mil.* A limited number of hard copies are available by contacting the DoN's Base Realignment and Closure Program Management Office (BRAC PMO) at the address in this notice.

Comments can be made in the following ways: (1) Written statements can be submitted to a DoN representative at the public meeting; (2) written comments can be mailed to Director, NAVFAC BRAC PMO West, Attn: Ms. Erica Spinelli, NEPA Project Manager, 1455 Frazee Road, Suite 900, San Diego, California 92108–4310; (3) written comments can be emailed to *erica.spinelli@navy.mil;* or (4) comments can be faxed to 619–532–0995, Attn: Ms. Erica Spinelli. Comments may be submitted without attending the public meeting. All comments postmarked or emailed no later than midnight, November 25, 2014, will become part of the public record and will be responded to in the Final EIS.

Requests for special assistance, sign language interpretation for the hearing impaired, language interpreters, or other auxiliary aids for the scheduled public meeting must be sent by mail or email to Ms. Jone Guerin, Ecology and Environment, Inc., 368 Pleasant View Drive, Lancaster, NY 14086, telephone: 716–684–8060, email: *jguerin@ene.com* no later than October 30, 2014.

Dated: October 6, 2014.

N.A. Hagerty-Ford,

Commander, Office of the Judge Advocate General, U.S. Navy, Federal Register Liaison Officer.

[FR Doc. 2014–24286 Filed 10–9–14; 8:45 am]

BILLING CODE 3810–FF–P

DEPARTMENT OF ENERGY

[96–77–NG, 14–66–NG, 14–68–LNG, et al.]

Orders Granting Authority To Import and Export Natural Gas, To Import and Export Liquefied Natural Gas, Vacating Prior Authority and Approving Change in Control of Authorization Allowing Exports of Liquefied Natural Gas During July 2014

	FE Docket Nos.
GAZ METROPOLITAIN AND COMPANY LIMITED PARTNERSHIP	96–77–NG
DEVON CANADA MARKETING CORPORATION	13–143–NG
NEXEN ENERGY MARKETING U.S.A. INC	14–66–NG
CHEVRON U.S.A. INC	14–68–LNG
MARATHON OIL COMPANY	14–69–NG
SEMPRA LNG MARKETING, LLC	14–74–LNG
SUMMITT ENERGY LP	14–75–NG
J. ARON & COMPANY	14–76–NG
UNION GAS LIMITED	14–77–NG
BP ENERGY COMPANY	14–78–LNG
ST. LAWRENCE GAS COMPANY, INC	14–81–NG
BP CANADA ENERGY MARKETING CORP	14–82–NG
STABILIS ENERGY SERVICES LLC	14–84–LNG
ANNOVA LNG COMMON INFRASTRUCTURE, LLC (for 13–140–LNG)	14–004–CIC
LNG DEVELOPMENT COMPANY, LLC (d/b/a OREGON LNG)	12–77–LNG

AGENCY: Office of Fossil Energy, Department of Energy.

ACTION: Notice of orders.

SUMMARY: The Office of Fossil Energy (FE) of the Department of Energy gives

are to respond, including through the use of appropriate automated electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses. In particular, EPA is requesting comments from very small businesses (those that employ less than 25) on examples of specific additional efforts that EPA could make to reduce the paperwork burden for very small businesses affected by this collection.

II. What information collection activity or ICR does this action apply to?

Title: PCBs, Consolidated Reporting and Record Keeping Requirements.

ICR number: EPA ICR No. 1446.11.

OMB control number: OMB Control No. 2070–0112.

ICR status: This ICR is currently scheduled to expire on August 31, 2015. An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information, unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in title 40 of the Code of Federal Regulations (CFR), after appearing in the **Federal Register** when approved, are listed in 40 CFR part 9, are displayed either by publication in the **Federal Register** or by other appropriate means, such as on the related collection instrument or form, if applicable. The display of OMB control numbers for certain EPA regulations is consolidated in 40 CFR part 9.

Abstract: Section 6(e)(1) of the Toxic Substances Control Act (TSCA), 15 USC 2605(e), directs EPA to regulate the marking and disposal of polychlorinated biphenyls (PCBs). Section 6(e)(2) bans the manufacturing, processing, distribution in commerce, and use of PCBs in other than a totally enclosed manner. Section 6(e)(3) establishes a process for obtaining exemptions from the prohibitions on the manufacture, processing, and distribution in commerce of PCBs. Since 1978, EPA has promulgated numerous rules addressing all aspects of the life cycle of PCBs as required by the statute. The regulations are intended to prevent the improper handling and disposal of PCBs and to minimize the exposure of human beings or the environment to PCBs. These regulations have been codified in the various subparts of 40 CFR 761. There are approximately 100 specific reporting, third-party reporting, and recordkeeping requirements covered by 40 CFR 761.

To meet its statutory obligations to regulate PCBs, EPA must obtain sufficient information to conclude that specified activities do not result in an unreasonable risk of injury to health or the environment. EPA uses the information collected under the 40 CFR 761 requirements to ensure that PCBs are managed in an environmentally safe manner and that activities are being conducted in compliance with the PCB regulations. The information collected by these requirements will update the Agency's knowledge of ongoing PCB activities, ensure that individuals using or disposing of PCBs are held accountable for their activities, and demonstrate compliance with the PCB regulations. Specific uses of the information collected include determining the efficacy of a disposal technology; evaluating exemption requests and exclusion notices; targeting compliance inspections; and ensuring adequate storage capacity for PCB waste. This collection addresses the several information reporting requirements found in the PCB regulations.

Responses to the collection of information are mandatory (see 40 CFR part 761). Respondents may claim all or part of a response confidential. EPA will disclose information that is covered by a claim of confidentiality only to the extent permitted by, and in accordance with, the procedures in TSCA section 14 and 40 CFR part 2.

Burden statement: The annual public reporting and recordkeeping burden for this collection of information is estimated to average 1.36 hours per response. Burden is defined in 5 CFR 1320.3(b).

The ICR, which is available in the docket along with other related materials, provides a detailed explanation of the collection activities and the burden estimate that is only briefly summarized here:

Respondents/Affected Entities: Entities potentially affected by this ICR are persons who currently possess PCB items, PCB-contaminated equipment, or other PCB waste.

Estimated total number of potential respondents: 548,298.

Frequency of response: On occasion.

Estimated total average number of responses for each respondent: 1.0.

Estimated total annual burden hours: 745,926 hours.

Estimated total annual costs: $29,778,544. This includes an estimated burden cost of $29,778,544 and an estimated cost of $0 for capital investment or maintenance and operational costs.

III. Are there changes in the estimates from the last approval?

There is an increase of 60,591 hours in the total estimated respondent burden compared with that identified in the ICR currently approved by OMB. This increase reflects EPA's revisions to the estimated total number of respondents, resulting from new data gathered for this ICR effort as well as another recent PCB regulatory analysis, plus updated Agency data regarding total numbers of regulated entities. The ICR supporting statement provides a detailed analysis of the change in burden estimate. This change is an adjustment.

IV. What is the next step in the process for this ICR?

EPA will consider the comments received and amend the ICR as appropriate. The final ICR package will then be submitted to OMB for review and approval pursuant to 5 CFR 1320.12. EPA will issue another **Federal Register** document pursuant to 5 CFR 1320.5(a)(1)(iv) to announce the submission of the ICR to OMB and the opportunity to submit additional comments to OMB. If you have any questions about this ICR or the approval process, please contact the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

Authority: 44 U.S.C. 3501 *et. seq.*

Dated: October 1, 2014.

James Jones,

Assistant Administrator, Office of Chemical Safety and Pollution Prevention.

[FR Doc. 2014–24149 Filed 10–9–14; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[ER–FRL–9017–4]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564–7146 or *http://www.epa.gov/compliance/nepa/.*

Weekly receipt of Environmental Impact Statements

Filed 09/29/2014 Through 10/03/2014 Pursuant to 40 CFR 1506.9.

Notice

Section 309(a) of the Clean Air Act requires that EPA make public its comments on EISs issued by other Federal agencies. EPA's comment letters on EISs are available at: *http://www.epa.gov/compliance/nepa/eisdata.html.*

EIS No. 20140289, Draft EIS, USN, CA, Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Comment Period Ends: 11/25/2014, Contact: Erica Spinelli, 619–532–0980.

EIS No. 20140290, Draft EIS, BR, CA, Long-Term Water Transfers, Comment Period Ends: 12/01/2014, Contact: Brad Hubbard, 916–978–5204

EIS No. 20140291, Draft EIS, CALTRANS, CA, High Desert Corridor Project, Comment Period Ends: 12/02/2014, Contact: Ron Kosinski, 213–897–0703.

EIS No. 20140292, Final EIS, NOAA, 00, ADOPTION—Programmatic-Deepwater Horizon Oil Spill: Phase III Early Restoration Plan, Review Contact: David G. Westerholm, 301–713–2989. The U.S. Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) has adopted the U.S. Department of the Interior's FEIS # 20140182, filed with the USEPA 06/20/2014. The NOAA was a cooperating agency for this project. Recirculation of the document is not necessary under Section 1306.3(c) of CEQ Regulations.

EIS No. 20140293, Draft EIS, NMFS, 00, Omnibus Essential Fish Habitat Amendment 2, Comment Period Ends: 12/09/2014, Contact: John K. Bullard, 978–281–9315.

EIS No. 20140294, Draft EIS, USACE, SC, Charleston Harbor Post 45, Comment Period Ends: 11/24/2014, Contact: Mark Messersmith, 843–329–8162.

EIS No. 20140295, Final EIS, NPS, VA, Dyke Marsh Wetland Restoration and Long-term Management Plan, Review Period Ends: 11/10/2014, Contact: Brent Steury, 703–289–2500.

EIS No. 20140296, Final EIS, FHWA, IL, 75th Street Corridor Improvement Project, Review Contact: Catherine A. Batey, 217–492–4600. Under MAP–21 section 1319, FTA has issued a single FEIS and ROD. Therefore, the 30-day wait/review period under NEPA does not apply to this action.

EIS No. 20140297, Draft EIS, USFS, OR, Kahler Dry, Forest Restoration Project, Comment Period Ends: 11/24/2014, Contact: John Evans, 541–278–3869.

EIS No. 20140298, Draft EIS, USACE, WA, Puget Sound Nearshore Ecosystem Restoration, Comment Period Ends: 11/24/2014, Contact: Nancy C. Gleason, 206–764–6577.

EIS No. 20140299, Final EIS, DOE, TX, ADOPTION—Freeport LNG Liquefaction Project and Phase II Modification Project, Contact: John Anderson, 202–586–0521. The U.S. Department of Energy has adopted the Federal Energy Regulatory Commission's FEIS #20140178 filed with the USEPA 6/17/2014. DOE was a cooperating agency for this project. Recirculation of the document is not necessary under Section 1306.3(c) of CEQ Regulations.

EIS No. 20140300, Draft EIS, BLM, NV, Las Vegas and Pahrump Field Offices Draft, Resource Management Plan, Comment Period Ends: 01/07/2015, Contact: Lee Kirk, 702–515–5026.

Dated: October 7, 2014.

Cliff Rader,

Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 2014–24255 Filed 10–9–14; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[EPA–HQ–OPP–2014–0673; FRL–9916–61]

Cancellation of Pesticides for Non-Payment of Year 2014 Registration Maintenance Fees; Summary of Orders Issued

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the payment of an annual maintenance fee is required to keep pesticide registrations in effect. The fee due last January 15, 2014, has gone unpaid for 199 registrations. If the fee is not paid, the EPA Administrator may cancel these registrations by order and without a hearing; orders to cancel these registrations have been issued.

FOR FURTHER INFORMATION CONTACT: Mick Yanchulis, Information Technology and Resources Management Division (7502P), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460–0001; telephone number: (703) 347–0237; email address: *yanchulis.michael@epa.gov.*

Product-specific status inquiries may be made by calling toll-free, 1–800–444–7255.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

This action is directed to the public in general. Although this action may be of particular interest to persons who produce or use pesticides, the Agency has not attempted to describe all the specific entities that may be affected by this action.

B. How can I get copies of this document and other related information?

The docket for this action, identified by docket identification (ID) number EPA–HQ–OPP–2014–0673, is available at *http://www.regulations.gov* or at the Office of Pesticide Programs Regulatory Public Docket (OPP Docket) in the Environmental Protection Agency Docket Center (EPA/DC), West William Jefferson Clinton Bldg., Rm. 3334, 1301 Constitution Ave. NW., Washington, DC 20460–0001. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the OPP Docket is (703) 305–5805. Please review the visitor instructions and additional information about the docket available at *http://www.epa.gov/dockets.*

Complete lists of registrations canceled for non-payment of the maintenance fee are also available for reference in the OPP Docket.

II. Background

Section 4(i)(5) of FIFRA (7 U.S.C. 136a–1(i)(5)) requires that all pesticide registrants pay an annual registration maintenance fee, due by January 15 of each year, to keep their registrations in effect. This requirement applies to all registrations granted under FIFRA section 3 as well as those granted under FIFRA section 24(c) to meet special local needs. Registrations for which the fee is not paid are subject to cancellation by order and without a hearing.

Under FIFRA, the EPA Administrator may reduce or waive maintenance fees for minor agricultural use pesticides when it is determined that the fee would be likely to cause significant impact on the availability of the pesticide for the use.

In fiscal year 2014, maintenance fees were collected in one billing cycle. In late November of 2013, all holders of either FIFRA section 3 registrations or FIFRA section 24(c) registrations were sent lists of their active registrations, along with forms and instructions for responding. They were asked to identify which of their registrations they wished to maintain in effect, and to calculate and remit the appropriate maintenance fees. Most responses were received by the statutory deadline of January 15. A notice of intent to cancel was sent in April of 2014 to companies who did not respond and to companies who responded, but paid for less than all of their registrations. Since mailing the notices of intent to cancel, EPA has maintained a toll-free inquiry number through which the questions of affected registrants have been answered.

In fiscal year 2014, the Agency has waived the fee for 266 minor agricultural use registrations at the request of the registrants. Maintenance fees have been paid for about 15,999 FIFRA section 3 registrations, or about

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE
1455 FRAZEE RD., SUITE 900
SAN DIEGO, CA 92108-4310

Notice of Public Meeting for the Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California

AGENCY: Department of the Navy, DoD

ACTION: Notice

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA) of 1969 (Pub. L. 91-190, 42 United States Code [U.S.C.] 4321-4347), as implemented by the Council on Environmental Quality Regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), the Department of the Navy (DoN) has prepared and filed the Draft Environmental Impact Statement (EIS) to evaluate the potential environmental consequences associated with the disposal of the former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California (NWS Concord), and its subsequent reuse by the local community. The DoN is initiating a 45-day public comment period to provide the community an opportunity to comment on the Draft EIS. Federal, state, and local elected officials and agencies and the public are encouraged to provide written comments. A public meeting will also be held to provide information and receive written comments on the Draft EIS.

DATES AND ADDRESSES: An open house public meeting will be held at the location listed below and will allow individuals to review and comment on the information presented in the Draft EIS. DoN representatives will be available during the open house to clarify information presented in the Draft EIS as necessary. There will not be a formal presentation.

Concord Senior Citizens Center (Wisteria Room)
2727 Parkside Circle
Concord, California 94519

Thursday, November 13, 2014 (4:00 p.m. to 8:00 p.m.)

FOR FURTHER INFORMATION, CONTACT:
Director, NAVFAC BRAC PMO West, Attn: Ms. Erica Spinelli, NEPA Project Manager, 1455 Frazee Road, Suite 900, San Diego, California, 92108-4310 , telephone: 619-532-0980, fax: 619-532-0995; e-mail: erica.spinelli@navy.mil

For more information on the NWS Concord EIS, visit the Navy BRAC PMO Website (http://www.bracpmo.navy.mil/).

SUPPLEMENTARY INFORMATION: The DoN has prepared the Draft EIS for the Disposal and Reuse of the Former NWS Concord in accordance with the requirements of NEPA (42 U.S.C. Sections 4321–4347) and its implementing regulations (40 CFR Parts 1500–1508). A Notice of Intent (NOI) to prepare this Draft EIS was published in the *Federal Register* on March 14, 2013 (*Federal Register*, Vol. 78, No. 50/Friday, March 14, 2013/Notices). The DoN is the lead agency for the proposed action, with the U.S. Army Corps of Engineers (USACE) serving as a cooperating agency for the preparation of this EIS.

The DoN closed the former NWS Concord on September 30, 2008, in accordance with Public Law (P. L.) 101-510, the Defense Base Closure and Realignment Act of 1990, as amended in 2005 (DBCRA). The DBCRA exempts the decision-making process of the Defense Base Closure and Realignment Commission from the requirements of NEPA. The DBCRA also relieves the DoN from the NEPA requirements to consider the need for closing, realigning, or transferring functions and from looking at alternative installations to close or realign. However, in accordance with NEPA, before disposing of any real property, the DoN must analyze the environmental effects of the disposal.

The purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord during reuse planning that took place between 2008 and 2012. The need for the proposed action is to provide the local community the opportunity for economic development and job creation.

The Draft EIS has considered two redevelopment alternatives for the disposal and reuse of NWS Concord. Both redevelopment alternatives would be generally consistent with the policies developed by the City of Concord during the reuse planning process that took place between 2008 and 2012. Both alternatives focus on the preservation of a significant amount of open space and conservation areas, and sustainable development characterized by walkable neighborhoods, transit-oriented development, and "complete streets" that balance multiple types of transportation. Under both alternatives, most installation facilities would be demolished, and the western side of the property would be developed as a series of mixed-use "development districts," with a higher concentration of development at the north end, near State Route 4 and the North Concord/Martinez Bay Area Rapid Transit (BART) Station. Redevelopment under either alternative would include parks and open spaces, best management practices for stormwater management, and green and sustainable design and planning principles. Full build-out under either alternative would be implemented over a 25-year period. A No Action alternative was also considered, as required by NEPA and to provide a point of comparison for assessing impacts of the redevelopment alternatives.

Alternative 1 includes the disposal of the former NWS Concord by the DoN and its reuse in a manner consistent with the adopted *Concord Reuse Project (CRP) Area Plan*. This alternative has been identified as the Preferred Alternative by the DoN. Under this alternative, redevelopment of approximately 2,500 acres of the former installation property would take place and would include a mix of land use types and densities. This alternative would also result in the preservation of a significant area of open space and conservation areas. The redevelopment would include approximately 6.1 million square feet of commercial floor space and up to 12,272 residential housing units.

Alternative 2 provides for the disposal of the former installation property by the DoN and its reuse in a manner similar to the Area Plan but with a higher density of residential development than under Alternative 1 and within a smaller footprint. Under this alternative, redevelopment of approximately 2,200 acres of the former installation property with a mix of land use types and densities would take place. This alternative would also include the preservation of a significant amount of open space and conservation areas. The alternative calls for approximately 6.1 million square feet of commercial building space and up to 15,872 residential housing units. Alternative 2 as presented in the Draft EIS is different from Alternative 2 as presented in the NOI circulated during the public scoping period in March and April 2013. Alternative 2 was revised by the DoN in response to comments received during the public scoping period to be more consistent with the land use planning policies adopted by the City of Concord as well as known and foreseeable market conditions. Comments on Alternative 2 received during the scoping period addressed the

smaller area designated for conservation and open space in this alternative, as well as concerns regarding higher levels of traffic, noise, and air impacts. Accordingly, the revised Alternative 2 is more similar to the adopted policies of the City of Concord as expressed in the CRP Area Plan, reflecting a similar but slightly smaller development footprint and representing a realistic reuse scenario.

The No Action Alternative is also analyzed in the Draft EIS, as required by NEPA. Under this alternative, NWS Concord would be retained by the U.S. government in caretaker status. No reuse or redevelopment would occur.

The Draft EIS addresses potential environmental impacts under each alternative associated with land use and zoning; socioeconomics and environmental justice; air quality and greenhouse gases (GHGs); biological resources; cultural resources; topography, geology, and soils; hazards and hazardous substances; noise; public services; transportation, traffic, and circulation; utilities and infrastructure; visual resources and aesthetics; and water resources. The analysis addresses direct and indirect impacts, and accounts for cumulative impacts from other foreseeable federal, state, or local activities at and around the former NWS Concord property. The DoN conducted a scoping process to identify community concerns and local issues that should be addressed in the EIS. The DoN considered the comments provided, which identified specific issues or topics of environmental concern, in determining the scope of the EIS. The Draft EIS identifies significant adverse impacts to air quality and traffic, and significant beneficial impacts to socioeconomics and public services. The Draft EIS has been distributed to various federal, state, and local agencies, as well as other interested individuals and organizations.

Federal, state, and local agencies, as well as interested members of the public, are invited and encouraged to review and comment on the Draft EIS. The Draft EIS is available for viewing at the following locations:

Concord Library, 2900 Salvio Street, Concord, CA 94519
Pittsburg Library, 80 Power Avenue, Pittsburg, CA 94565
Pleasant Hill Library, 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following website: http://www.bracpmo.navy.mil. A limited number of hard copies are available by contacting the DoN's Base Realignment and Closure Program Management Office (BRAC PMO) at the address in this notice.

Comments can be made in the following ways: (1) written statements can be submitted to a DoN representative at the public meeting; (2) written comments can be mailed to Director, NAVFAC BRAC PMO West, Attn: Ms. Erica Spinelli, NEPA Project Manager, 1455 Frazee Road, Suite 900, San Diego, California, 92108-4310; (3) written comments can be e-mailed to erica.spinelli@navy.mil; or (4) comments can be faxed to 619-532-0995, Attn: Ms. Erica Spinelli. Comments may be submitted without attending the public meeting. All comments postmarked or e-mailed no later than midnight, November 25, 2014, will become part of the public record and will be responded to in the Final EIS.

Requests for special assistance, sign language interpretation for the hearing impaired, language interpreters, or other auxiliary aids for the scheduled public meeting must be sent by mail or e-mail to Ms. Jone Guerin, Ecology and Environment, Inc., 368 Pleasant View Drive, Lancaster, NY 14086, telephone: 716-684-8060, e-mail: jguerin@ene.com no later than October 30, 2014.

Dated: October 10, 2014

Director, NAVFAC BRAC PMO West
Attn: Ms. Erica Spinelli, NEPA Project Manager
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

NOTICE OF AVAILABILITY AND ANNOUNCEMENT OF PUBLIC MEETING: DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE DISPOSAL AND REUSE OF THE FORMER NAVAL WEAPONS STATION SEAL BEACH, DETACHMENT CONCORD (NWS CONCORD), CONCORD, CALIFORNIA

Pursuant to the National Environmental Policy Act (NEPA), the Department of the Navy (U.S. Navy) announces the availability of the Draft Environmental Impact Statement (DEIS) on the disposal of the former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California (NWS Concord), and its subsequent reuse by the local community. The U.S. Navy will hold an open house public meeting in Concord, Contra Costa County, California, to receive comments on the DEIS. There will not be a formal presentation.

The open house public meeting is scheduled as follows:

Date: Thursday, November 13, 2014

Time: 4:00 – 8:00 p.m.

Location: Concord Senior Citizens Center
(Wisteria Room)
2727 Parkside Circle
Concord, CA 94519

You may submit written comments on the DEIS via mail, fax, and email. All comments must be postmarked or received by midnight November 25, 2014, and sent to:

Director, NAVFAC BRAC PMO West
Attn: Ms. Erica Spinelli
NEPA Project Manager
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

Fax: 619-532-0995

Email: erica.spinelli@navy.mil

To view or download an electronic version of the NWS Concord EIS, go to the Navy BRAC PMO Website (www.bracpmo.navy.mil). Hard copies are available for review at the Concord Library, the Pittsburg Library, and the Pleasant Hill Library.

From: NAVFAC BRAC PMO West
Subject: Notice of Availability and Announcement of Public Meeting: Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD., SUITE 900
SAN DIEGO, CA 92108-4310

Notice of Public Meeting for the Draft Environmental Impact Statement for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California

AGENCY: Department of the Navy, DoD

ACTION: Notice

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA) of 1969 (Pub. L. 91-190, 42 United States Code [U.S.C.] 4321-4347), as implemented by the Council on Environmental Quality Regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), the Department of the Navy (DoN) has prepared and filed the Draft Environmental Impact Statement (EIS) to evaluate the potential environmental consequences associated with the disposal of the former Naval Weapons Station Seal Beach, Detachment Concord, Concord, California (NWS Concord), and its subsequent reuse by the local community. The DoN is initiating a 45-day public comment period to provide the community an opportunity to comment on the Draft EIS. Federal, state, and local elected officials and agencies and the public are encouraged to provide written comments. A public meeting will also be held to provide information and receive written comments on the Draft EIS.

DATES AND ADDRESSES: An open house public meeting will be held at the location listed below and will allow individuals to review and comment on the information presented in the Draft EIS. DoN representatives will be available during the open house to clarify information presented in the Draft EIS as necessary. There will not be a formal presentation.

Concord Senior Citizens Center (Wisteria Room)
2727 Parkside Circle
Concord, California 94519

Thursday, November 13, 2014 (4:00 p.m. to 8:00 p.m.)

FOR FURTHER INFORMATION, CONTACT:
Director, NAVFAC BRAC PMO West, Attn: Ms. Erica Spinelli, NEPA Project Manager, 1455

Frazee Road, Suite 900, San Diego, California, 92108-4310 , telephone: 619-532-0980, fax: 619-532-0995; e-mail: erica.spinelli@navy.mil

For more information on the NWS Concord EIS, visit the Navy BRAC PMO Website (http://www.bracpmo.navy.mil/).

SUPPLEMENTARY INFORMATION: The DoN has prepared the Draft EIS for the Disposal and Reuse of the Former NWS Concord in accordance with the requirements of NEPA (42 U.S.C. Sections 4321–4347) and its implementing regulations (40 CFR Parts 1500–1508). A Notice of Intent (NOI) to prepare this Draft EIS was published in the Federal Register on March 14, 2013 (Federal Register, Vol. 78, No. 50/Friday, March 14, 2013/Notices). The DoN is the lead agency for the proposed action, with the U.S. Army Corps of Engineers (USACE) serving as a cooperating agency for the preparation of this EIS.

The DoN closed the former NWS Concord on September 30, 2008, in accordance with Public Law (P. L.) 101-510, the Defense Base Closure and Realignment Act of 1990, as amended in 2005 (DBCRA). The DBCRA exempts the decision-making process of the Defense Base Closure and Realignment Commission from the requirements of NEPA. The DBCRA also relieves the DoN from the NEPA requirements to consider the need for closing, realigning, or transferring functions and from looking at alternative installations to close or realign. However, in accordance with NEPA, before disposing of any real property, the DoN must analyze the environmental effects of the disposal.

The purpose of the proposed action is to dispose of surplus property at the former NWS Concord for subsequent reuse in a manner consistent with the policies adopted by the City of Concord during reuse planning that took place between 2008 and 2012. The need for the proposed action is to provide the local community the opportunity for economic development and job creation.

The Draft EIS has considered two redevelopment alternatives for the disposal and reuse of NWS Concord. Both redevelopment alternatives would be generally consistent with the policies developed by the City of Concord during the reuse planning process that took place between 2008 and 2012. Both alternatives focus on the preservation of a significant amount of open space and conservation areas, and sustainable development characterized by walkable neighborhoods, transit-oriented development, and “complete streets” that balance multiple types of transportation. Under both alternatives, most installation facilities would be demolished, and the western side of the property would be developed as a series of mixed-use “development districts,” with a higher concentration of development at the north end, near State Route 4 and the North Concord/Martinez Bay Area Rapid Transit (BART) Station. Redevelopment under either alternative would include parks and open spaces, best management practices for stormwater management, and green and sustainable design and planning principles. Full build-out under either alternative would be implemented over a 25-year period. A No Action alternative was also considered, as required by NEPA and to provide a point of comparison for assessing impacts of the redevelopment alternatives.

Alternative 1 includes the disposal of the former NWS Concord by the DoN and its reuse in a manner consistent with the adopted Concord Reuse Project (CRP) Area Plan. This alternative has

been identified as the Preferred Alternative by the DoN. Under this alternative, redevelopment of approximately 2,500 acres of the former installation property would take place and would include a mix of land use types and densities. This alternative would also result in the preservation of a significant area of open space and conservation areas. The redevelopment would include approximately 6.1 million square feet of commercial floor space and up to 12,272 residential housing units.

Alternative 2 provides for the disposal of the former installation property by the DoN and its reuse in a manner similar to the Area Plan but with a higher density of residential development than under Alternative 1 and within a smaller footprint. Under this alternative, redevelopment of approximately 2,200 acres of the former installation property with a mix of land use types and densities would take place. This alternative would also include the preservation of a significant amount of open space and conservation areas. The alternative calls for approximately 6.1 million square feet of commercial building space and up to 15,872 residential housing units. Alternative 2 as presented in the Draft EIS is different from Alternative 2 as presented in the NOI circulated during the public scoping period in March and April 2013. Alternative 2 was revised by the DoN in response to comments received during the public scoping period to be more consistent with the land use planning policies adopted by the City of Concord as well as known and foreseeable market conditions. Comments on Alternative 2 received during the scoping period addressed the smaller area designated for conservation and open space in this alternative, as well as concerns regarding higher levels of traffic, noise, and air impacts. Accordingly, the revised Alternative 2 is more similar to the adopted policies of the City of Concord as expressed in the CRP Area Plan, reflecting a similar but slightly smaller development footprint and representing a realistic reuse scenario.

The No Action Alternative is also analyzed in the Draft EIS, as required by NEPA. Under this alternative, NWS Concord would be retained by the U.S. government in caretaker status. No reuse or redevelopment would occur.

The Draft EIS addresses potential environmental impacts under each alternative associated with land use and zoning; socioeconomics and environmental justice; air quality and greenhouse gases (GHGs); biological resources; cultural resources; topography, geology, and soils; hazards and hazardous substances; noise; public services; transportation, traffic, and circulation; utilities and infrastructure; visual resources and aesthetics; and water resources. The analysis addresses direct and indirect impacts, and accounts for cumulative impacts from other foreseeable federal, state, or local activities at and around the former NWS Concord property. The DoN conducted a scoping process to identify community concerns and local issues that should be addressed in the EIS. The DoN considered the comments provided, which identified specific issues or topics of environmental concern, in determining the scope of the EIS. The Draft EIS identifies significant adverse impacts to air quality and traffic, and significant beneficial impacts to socioeconomics and public services. The Draft EIS has been distributed to various federal, state, and local agencies, as well as other interested individuals and organizations.

Federal, state, and local agencies, as well as interested members of the public, are invited and encouraged to review and comment on the Draft EIS. The Draft EIS is available for viewing at the following locations:

Concord Library, 2900 Salvio Street, Concord, CA 94519
Pittsburg Library, 80 Power Avenue, Pittsburg, CA 94565
Pleasant Hill Library, 1750 Oak Park Boulevard, Pleasant Hill, CA 94523

An electronic version of the Draft EIS can be viewed or downloaded at the following website: http://www.bracpmo.navy.mil. A limited number of hard copies are available by contacting the DoN's Base Realignment and Closure Program Management Office (BRAC PMO) at the address in this notice.

Comments can be made in the following ways: (1) written statements can be submitted to a DoN representative at the public meeting; (2) written comments can be mailed to Director, NAVFAC BRAC PMO West, Attn: Ms. Erica Spinelli, NEPA Project Manager, 1455 Frazee Road, Suite 900, San Diego, California, 92108-4310; (3) written comments can be e-mailed to erica.spinelli@navy.mil; or (4) comments can be faxed to 619-532-0995, Attn: Ms. Erica Spinelli. Comments may be submitted without attending the public meeting. All comments postmarked or e-mailed no later than midnight, November 25, 2014, will become part of the public record and will be responded to in the Final EIS.

Requests for special assistance, sign language interpretation for the hearing impaired, language interpreters, or other auxiliary aids for the scheduled public meeting must be sent by mail or e-mail to Ms. Jone Guerin, Ecology and Environment, Inc., 368 Pleasant View Drive, Lancaster, NY 14086, telephone: 716-684-8060, e-mail: jguerin@ene.com no later than October 30, 2014.

Dated: October 10, 2014