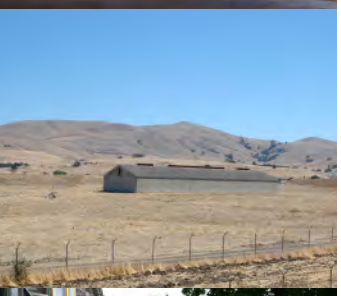
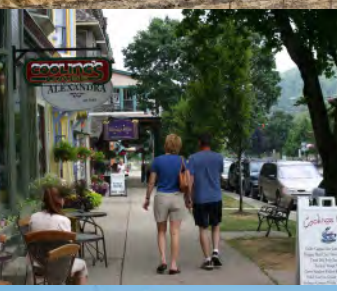




Final Environmental Impact Statement (EIS) for the Disposal and Reuse of the Former Naval Weapons Station Seal Beach, Detachment Concord Concord, California

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

Appendix

This page intentionally left blank.

List of Figures

List of Tables

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.

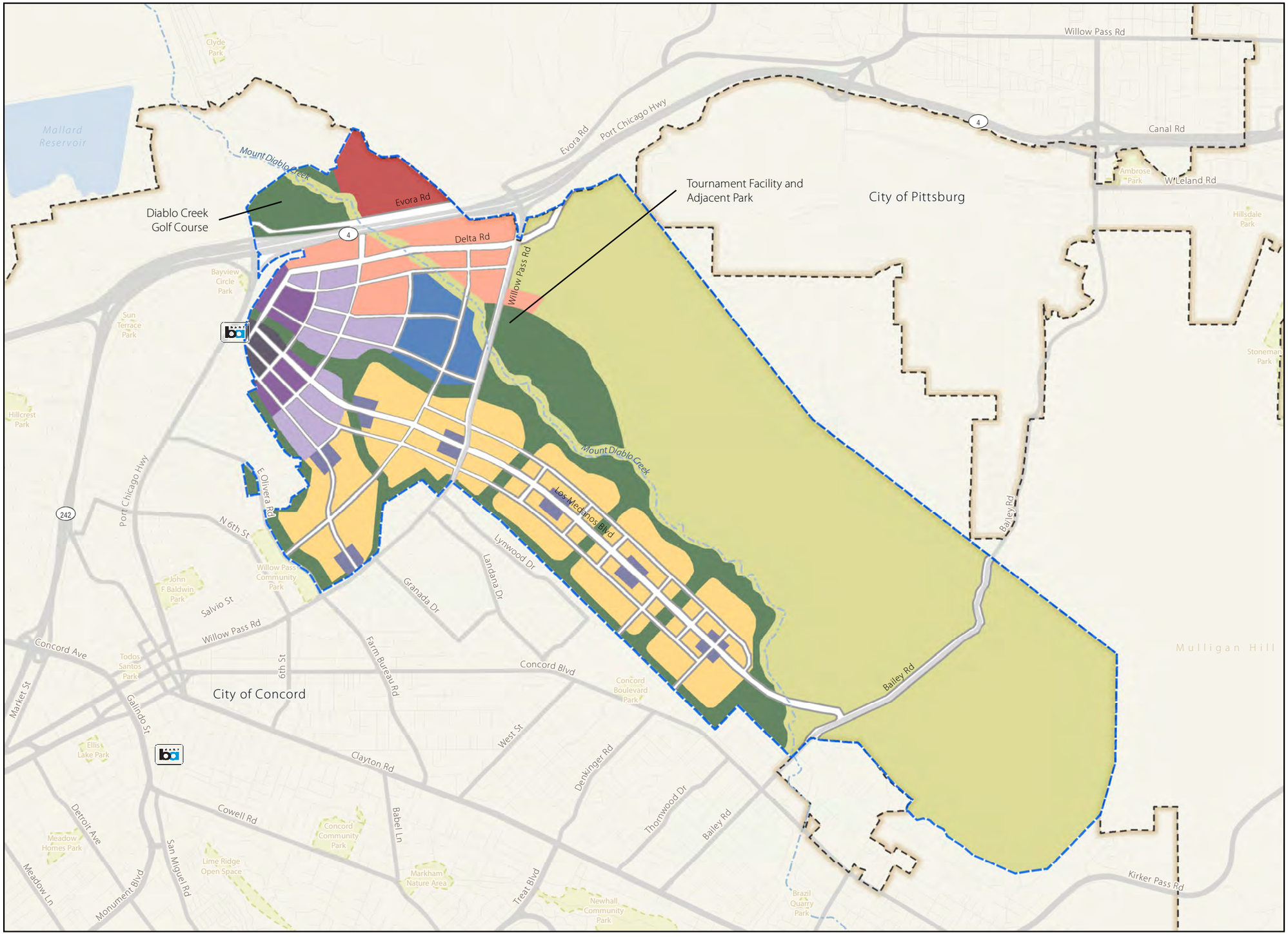
Village Neighborhoods (Five Districts)

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]

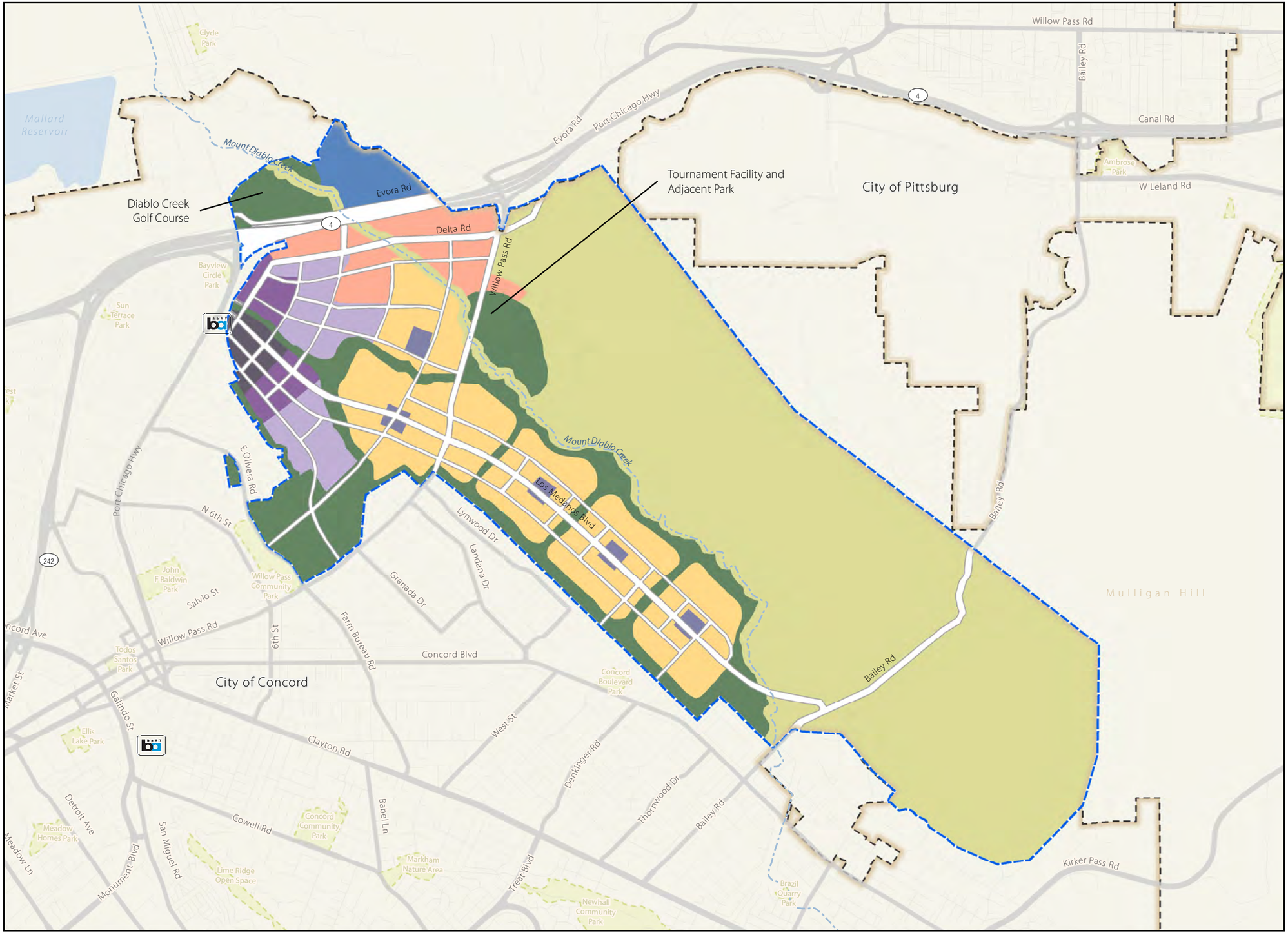
[1] The total area of the surplus property is 4,972 acres. The total area being evaluated for reuse in this EIS is 5,046 acres because the city's Area Plan included some areas, such as the North Concord/Martinez BART Station and the Diablo Creek Golf Course, that are not part of the Navy's surplus property. 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*** • 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.	**Other Utilities and Infrastructure:** ***No significant impacts*** • 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.	**Other Utilities and Infrastructure:** ***No impact.***

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

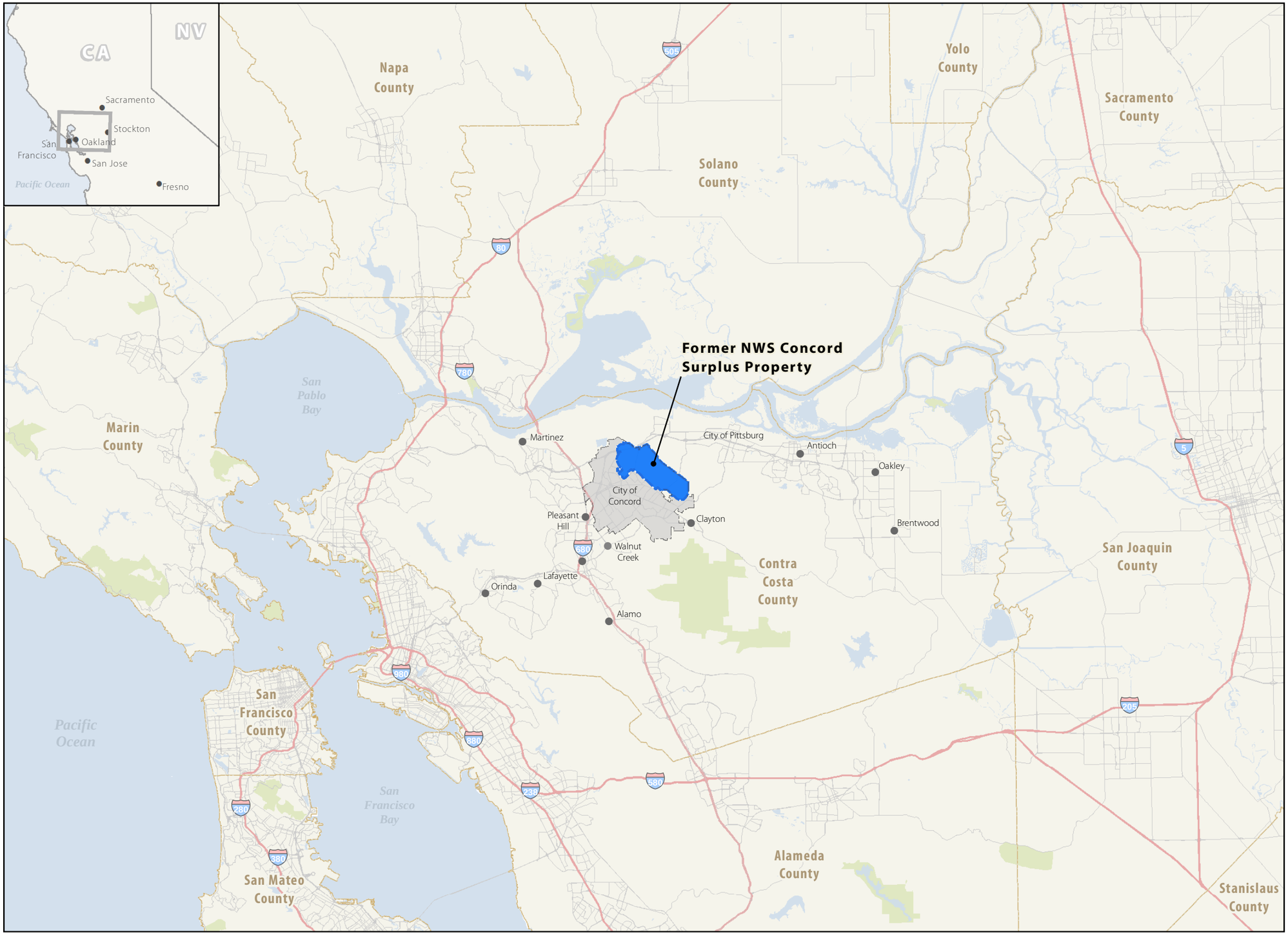


Figure 1-1
Vicinity Map
Former NWS Concord Surplus Property
Concord, California

Legend

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

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

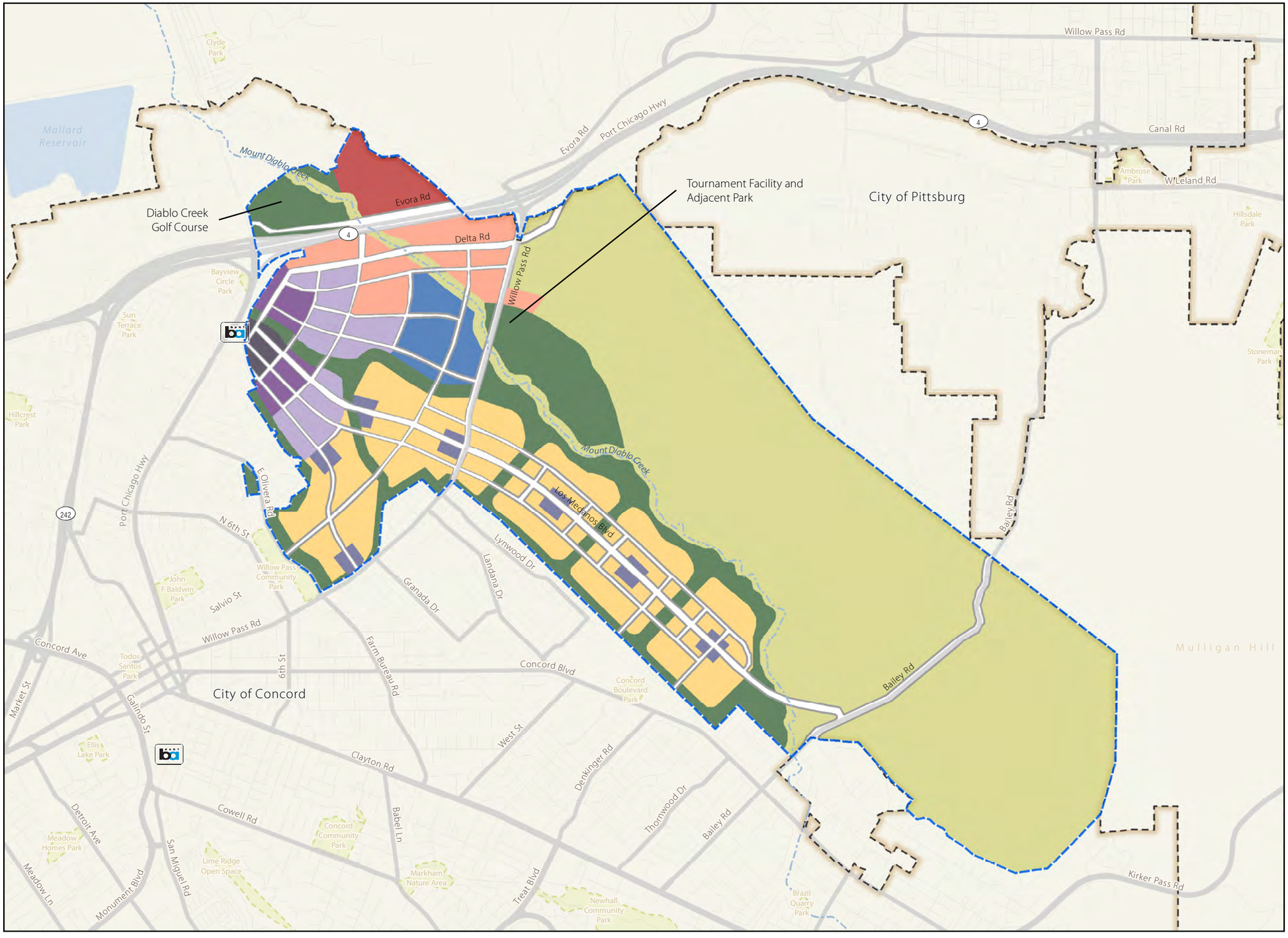


Figure 2-1
Alternative 1: Preferred Alternative
Former NWS Concord
Concord, California

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.

N

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

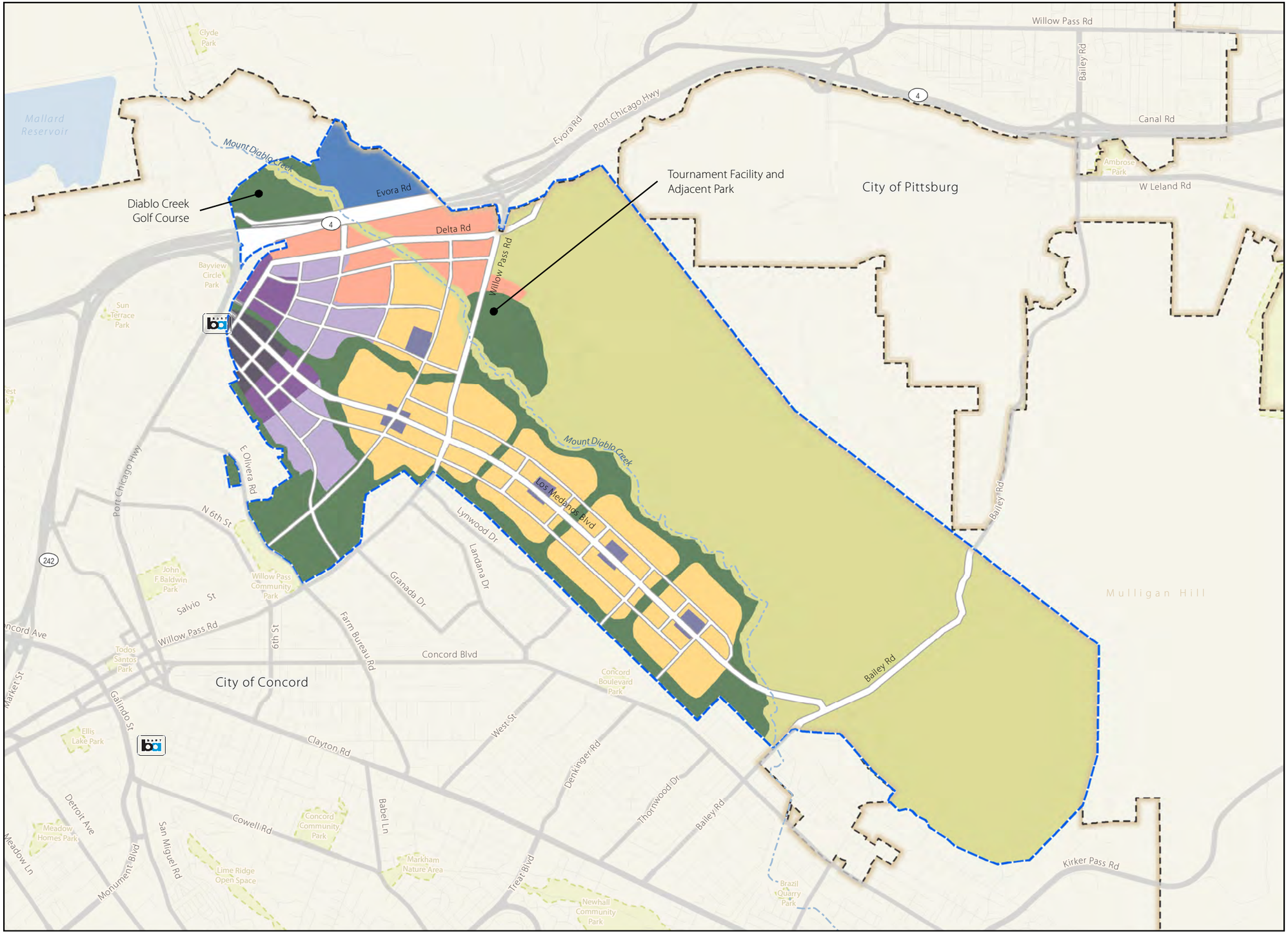


Figure 2-2

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.

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.*** Water Supply and Demand • 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. Water Treatment and Distribution • 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.*** Water Supply and Demand • 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. Water Treatment and Distribution • 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*** • 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.	**Other Utilities and Infrastructure:** ***No significant impacts*** • 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.	**Other Utilities and Infrastructure:** ***No impact.***

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

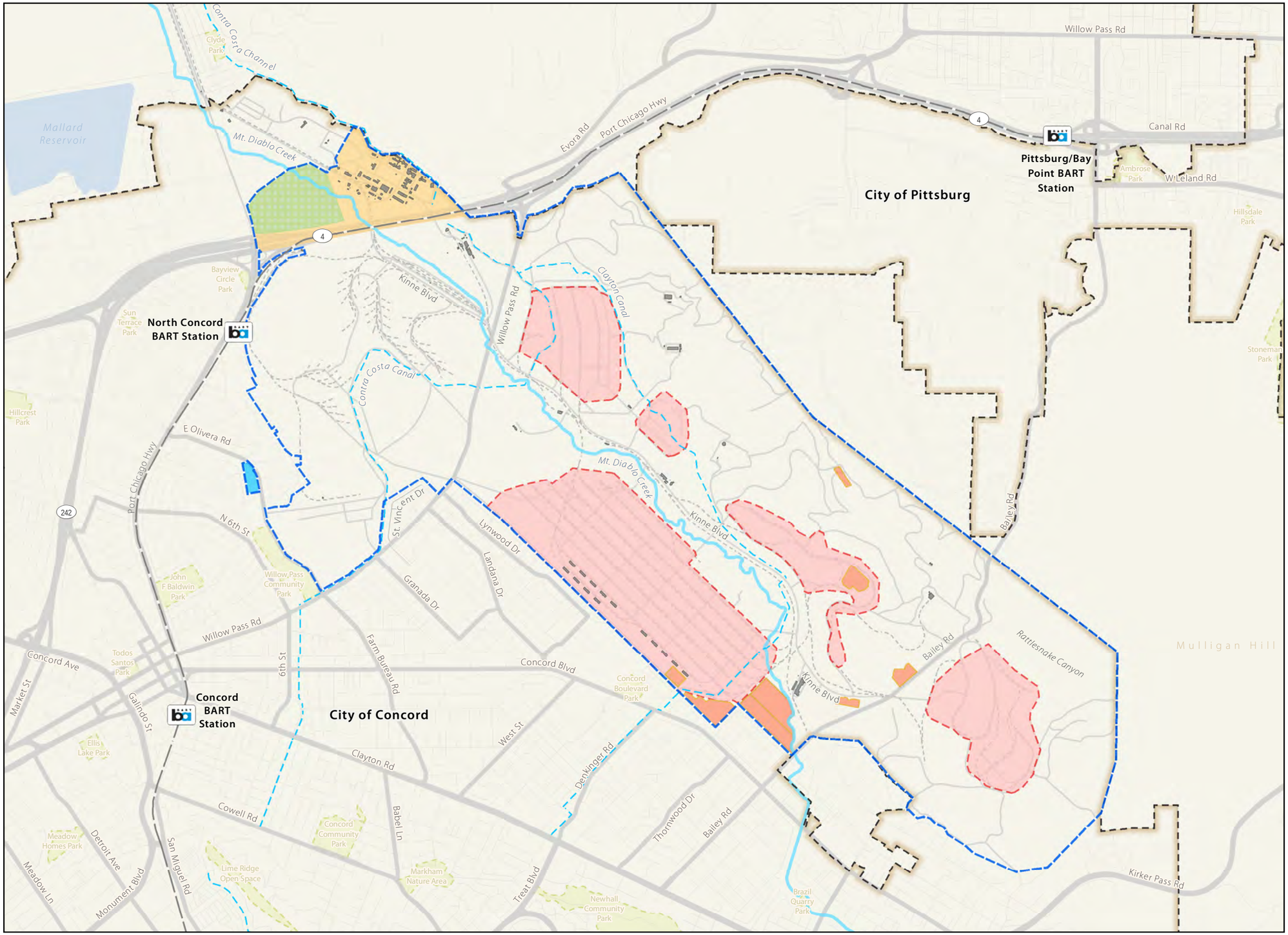


Figure 3.2-1
Existing Land Use
Former NWS Concord
Concord, California

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

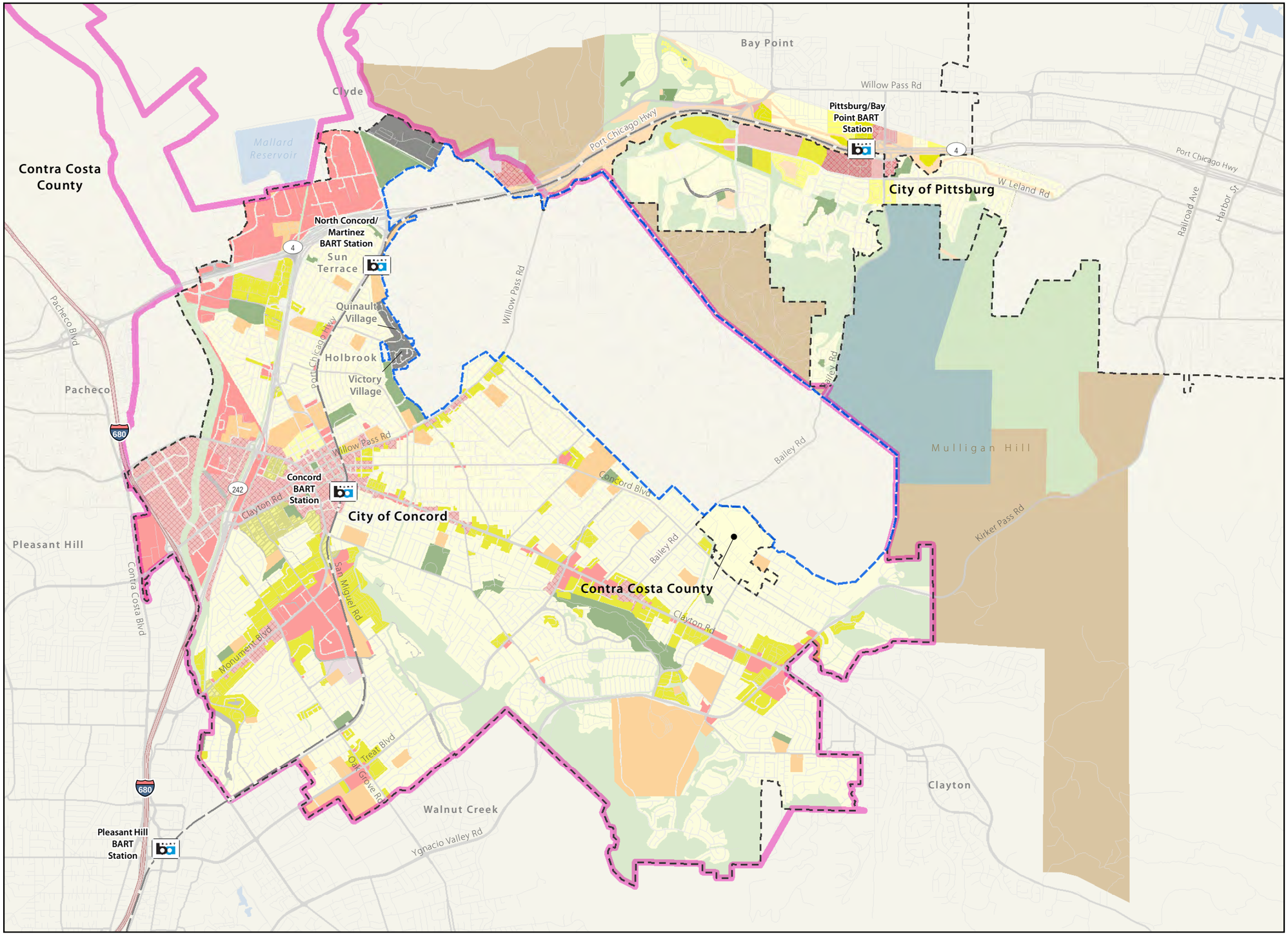


Figure 3.2-2

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

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 Primary	NAAQS Secondary	CAAQS
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 (µg/m^3)	7.0 µg/m^3	7.8 µg/m^3	6.6 µg/m^3	7.6 µg/m^3	6.7 µg/m^3	8.8 µg/m^3
		CAAQS	Average Concentration (µg/m^3)	7.1 µg/m^3	7.9 µg/m^3	6.6 µg/m^3	7.6 µg/m^3	6.7 µg/m^3	insufficient data
	24-hour	NAAQS	98th Percentile Concentration (µg/m^3)	26.8 µg/m^3	24.4 µg/m^3	20.2 µg/m^3	21.7 µg/m^3	20.5 µg/m^3	28.0 µg/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:
µg/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

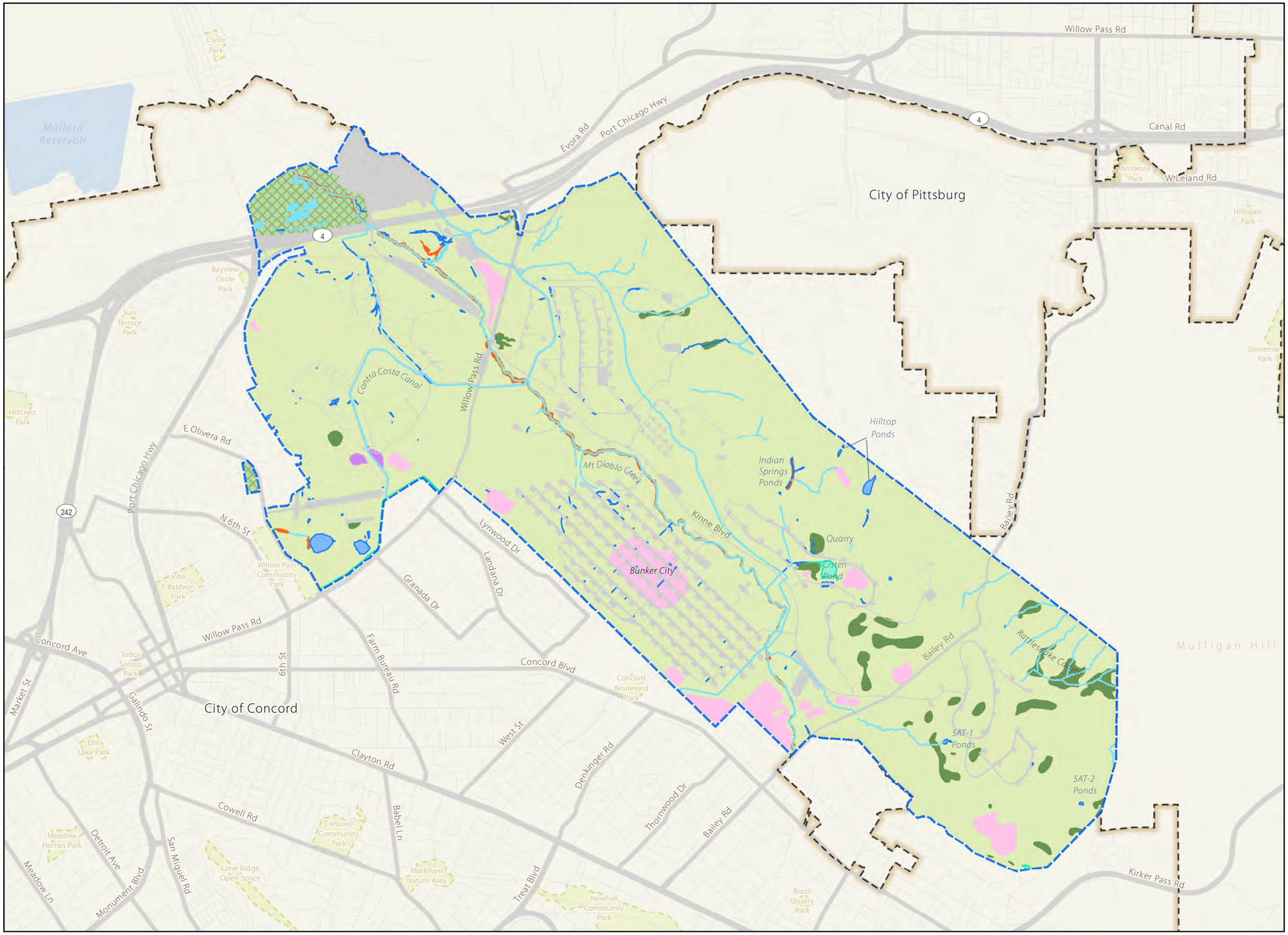


Figure 3.5-1
Vegetation Communities and Habitats
Former NWS Concord
Concord, California

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

N

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 spariverus*), 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

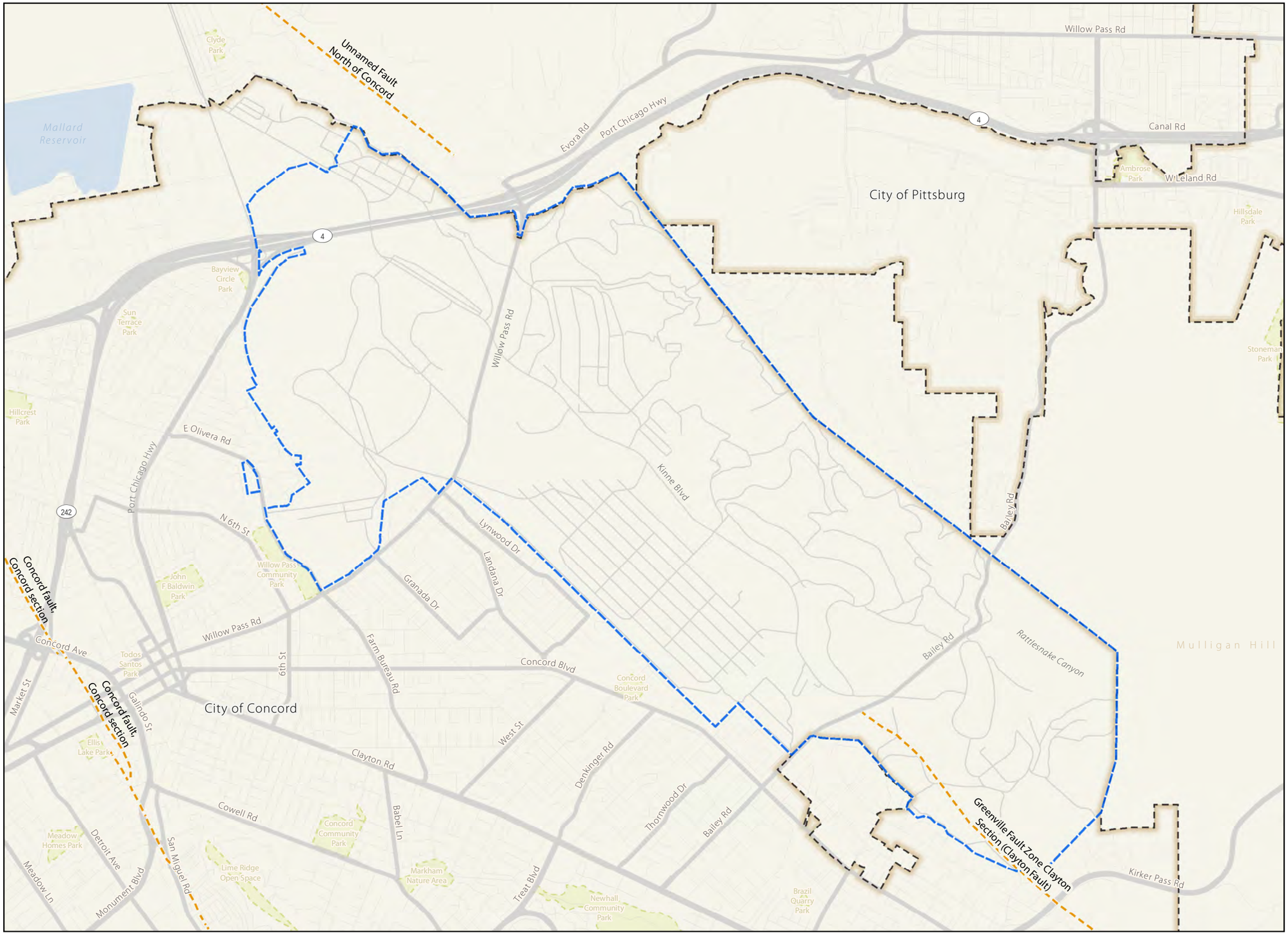


Figure 3.7-1
Faults
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Quaternary Fault

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

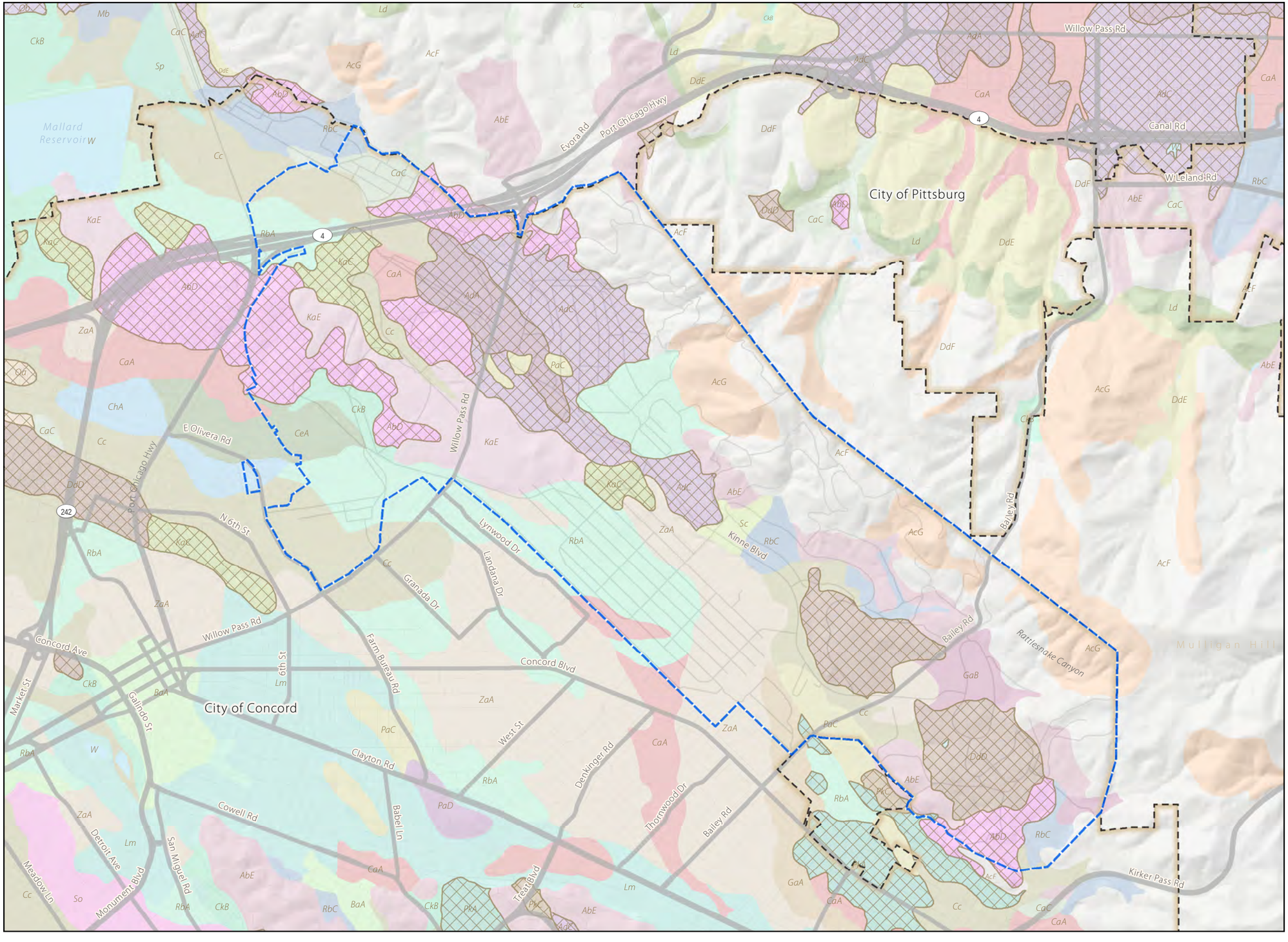


Figure 3.7-2
Soil Units
Former NWS Concord
Concord, California

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

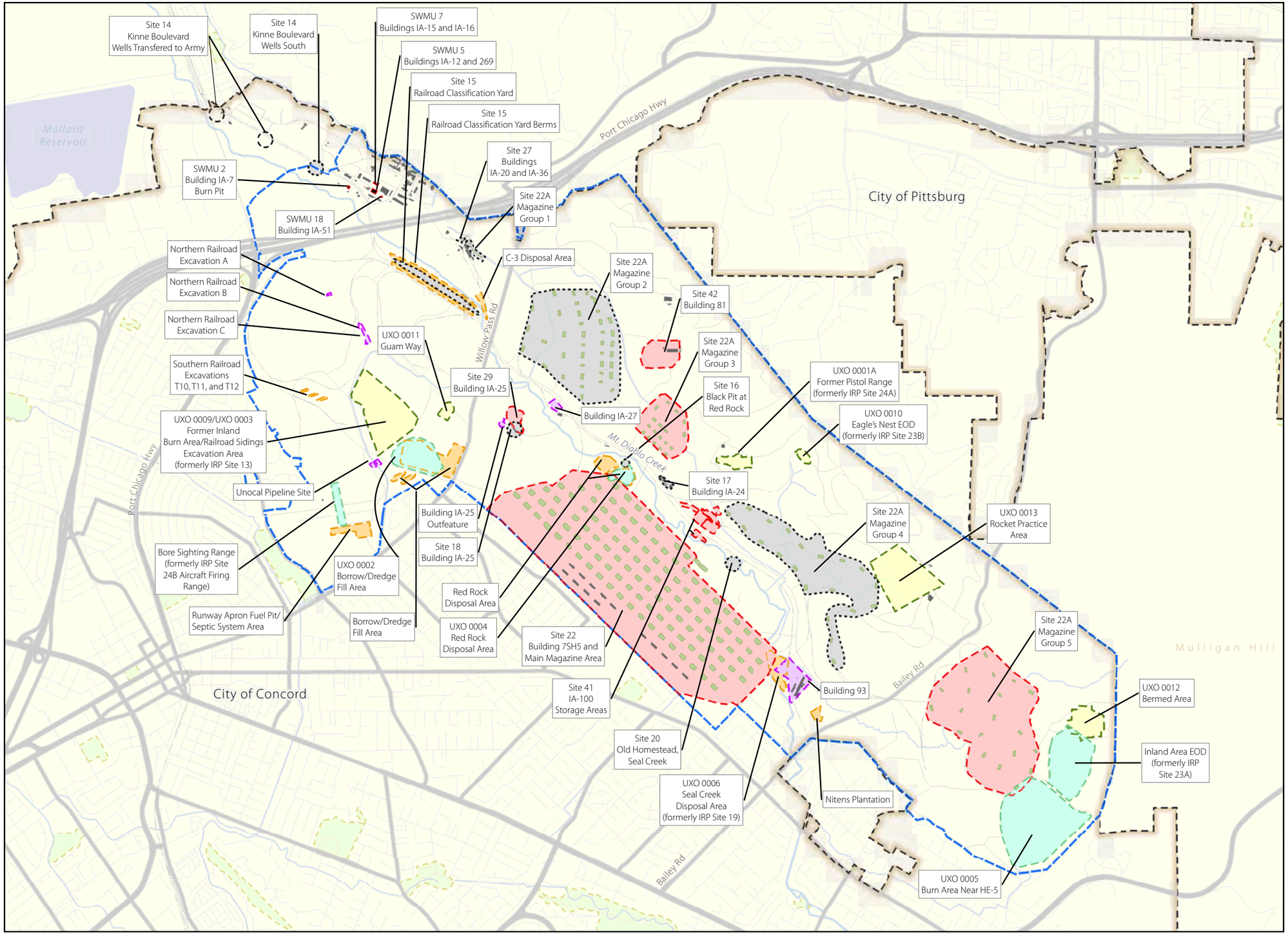


Figure 3.8-1
ER Program Sites
Former NWS Concord
Concord, California

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: Key Activity	Program Activity: Date Completed	Current Status	Constituents of Concern
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: Key Activity	Program Activity: Date Completed	Current Status	Constituents of Concern
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: Key Activity	Program Activity: Date Completed	Current Status	Constituents of Concern
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: Key Activity	Program Activity: Date Completed	Current Status	Constituents of Concern
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: Key Activity	Program Activity: Date Completed	Current Status	Constituents of Concern
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: Key Activity	Program Activity: Date Completed	Current Status	Constituents of Concern
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: Key Activity	Program Activity: Date Completed	Current Status	Constituents of Concern
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: Key Activity	Program Activity: Date Completed	Current Status	Constituents of Concern
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: Key Activity	Program Activity: Date Completed	Current Status	Constituents of Concern
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

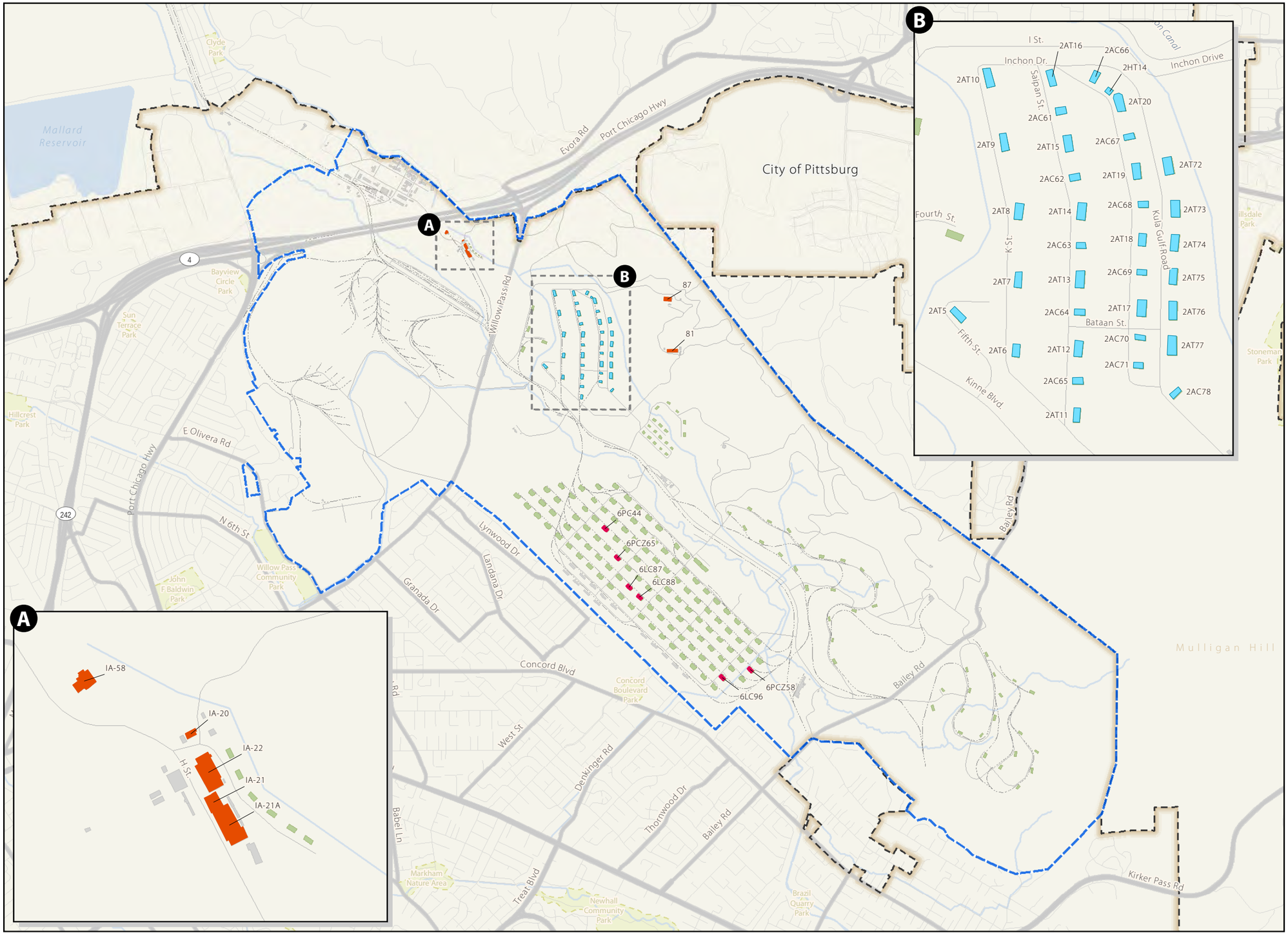


Figure 3.8-2

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

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)	100	
Shout (0.5 foot)		
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)	70	Telephone Use Difficult
Freeway Traffic (50 feet)		Intrusive
Air Conditioning Unit (20 feet)	60	
Light Auto Traffic (50 feet)	50	Quiet
Living Room	40	
Bedroom		
Library	30	Very Quiet
Soft Whisper (15 feet)		
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

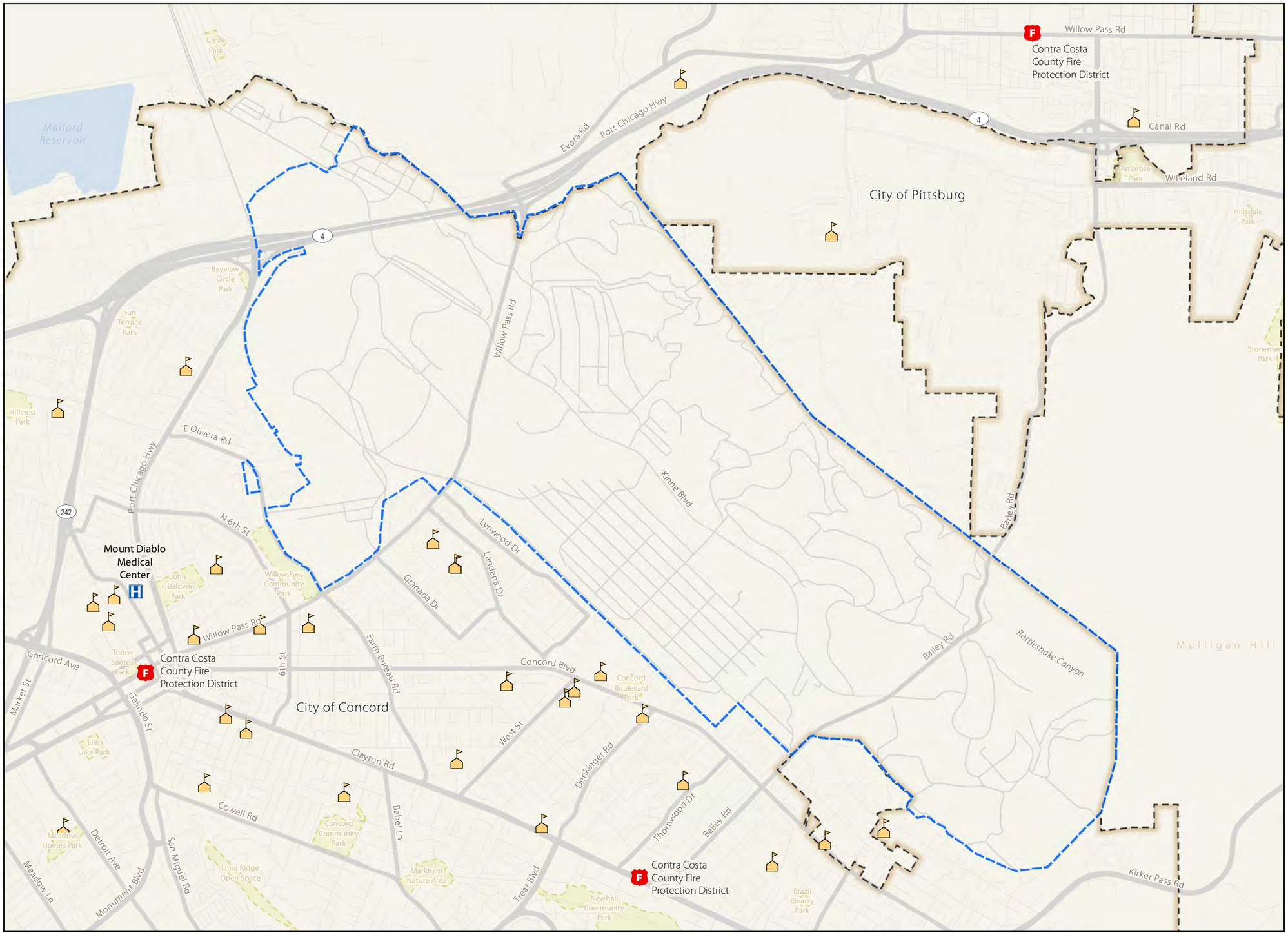


Figure 3.10-1
Community Facilities
Former NWS Concord
Concord, California

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

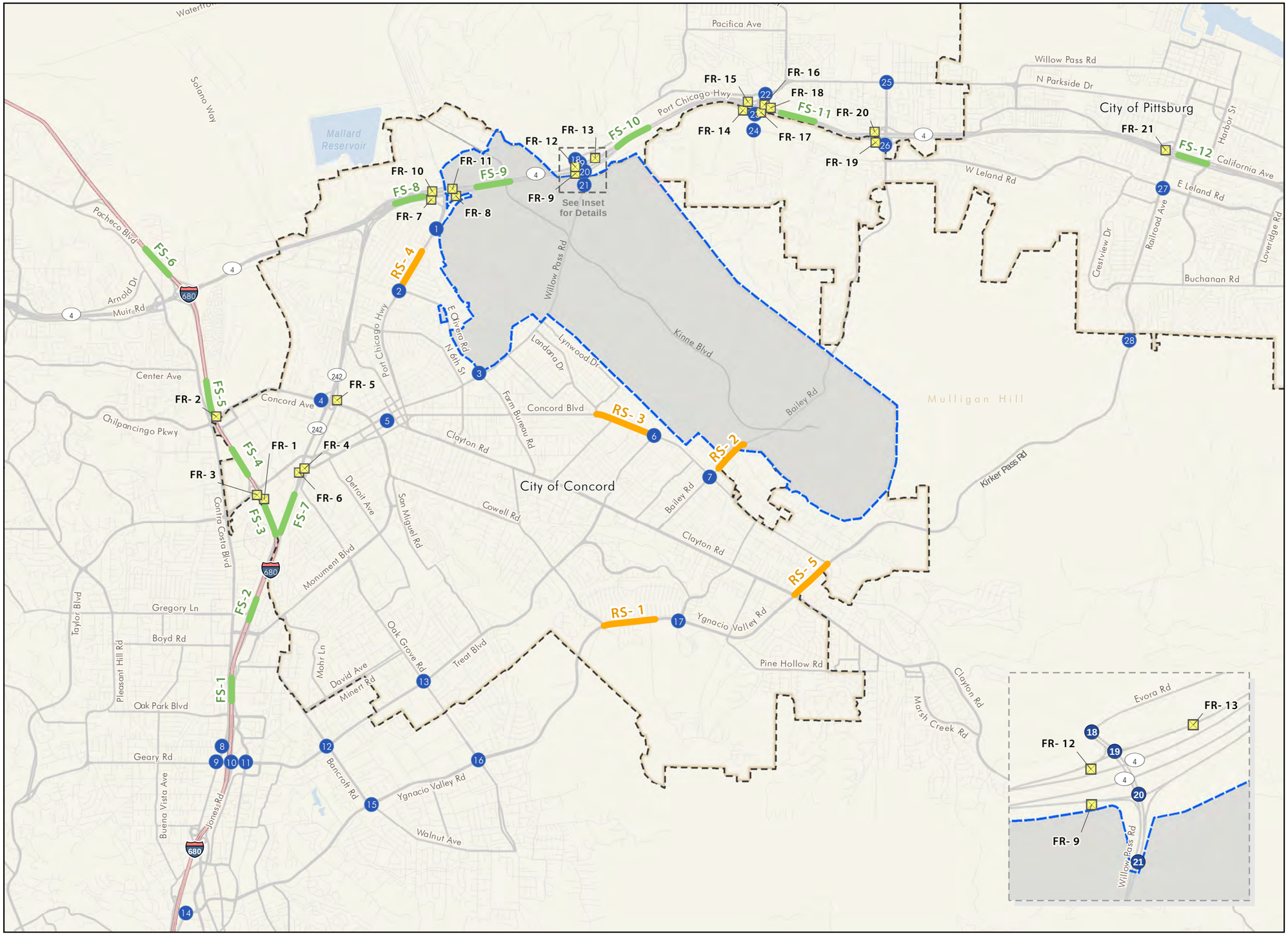


Figure 3.11-1
Study Locations
Former NWS Concord
Concord, California

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	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 V/C	AM Peak Hour LOS	PM Peak Hour V/C	PM Peak Hour 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 LOS	AM Peak Hour v/c or Delay[1]	PM Peak Hour LOS	PM Peak Hour 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 LOS	AM Peak Hour v/c or Delay[1]	PM Peak Hour LOS	PM Peak Hour 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)	Existing 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

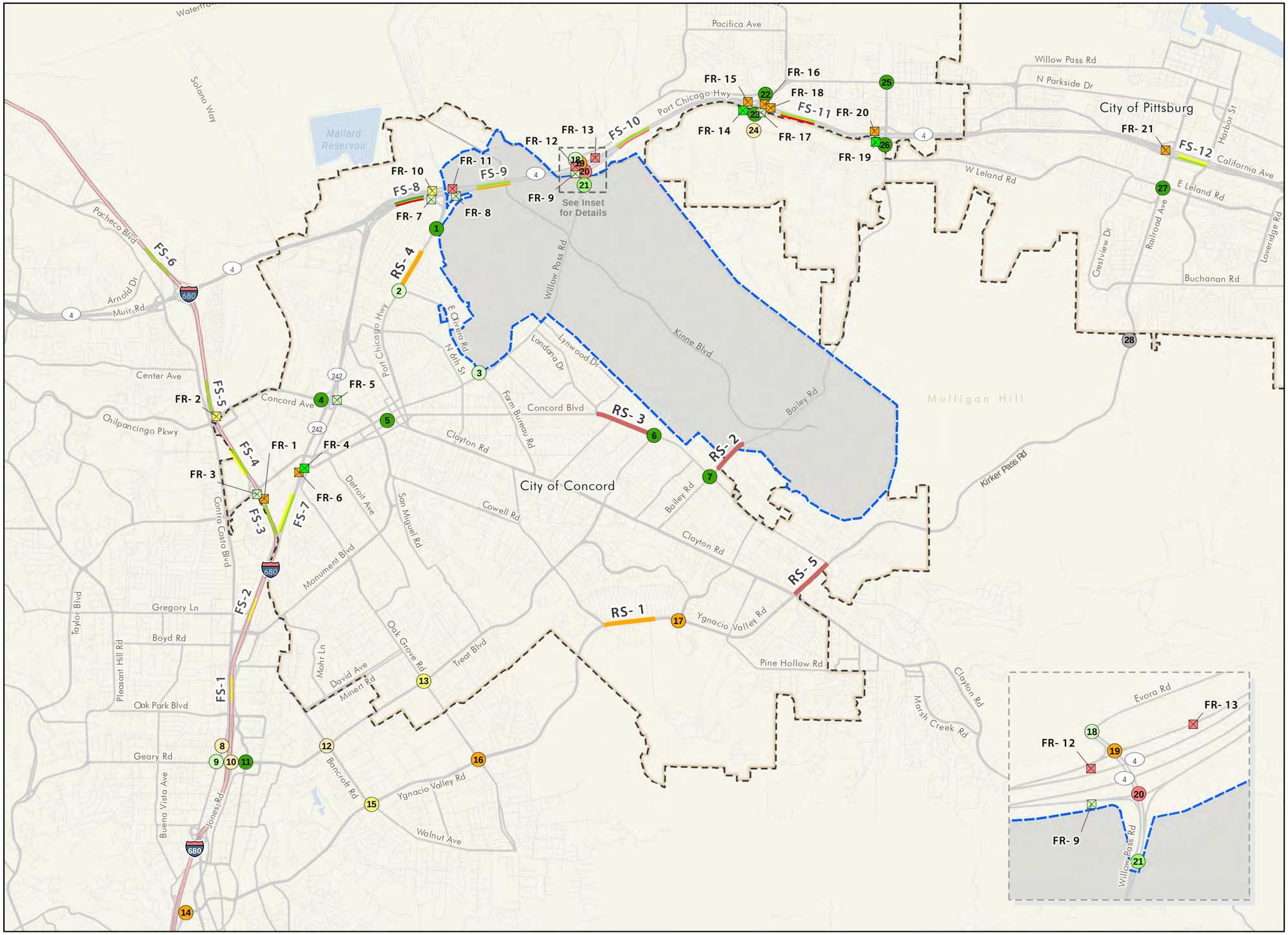


Figure 3.11-2
Study Locations AM
Peak Hour Level of Service
Former NWS Concord
Concord, California

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

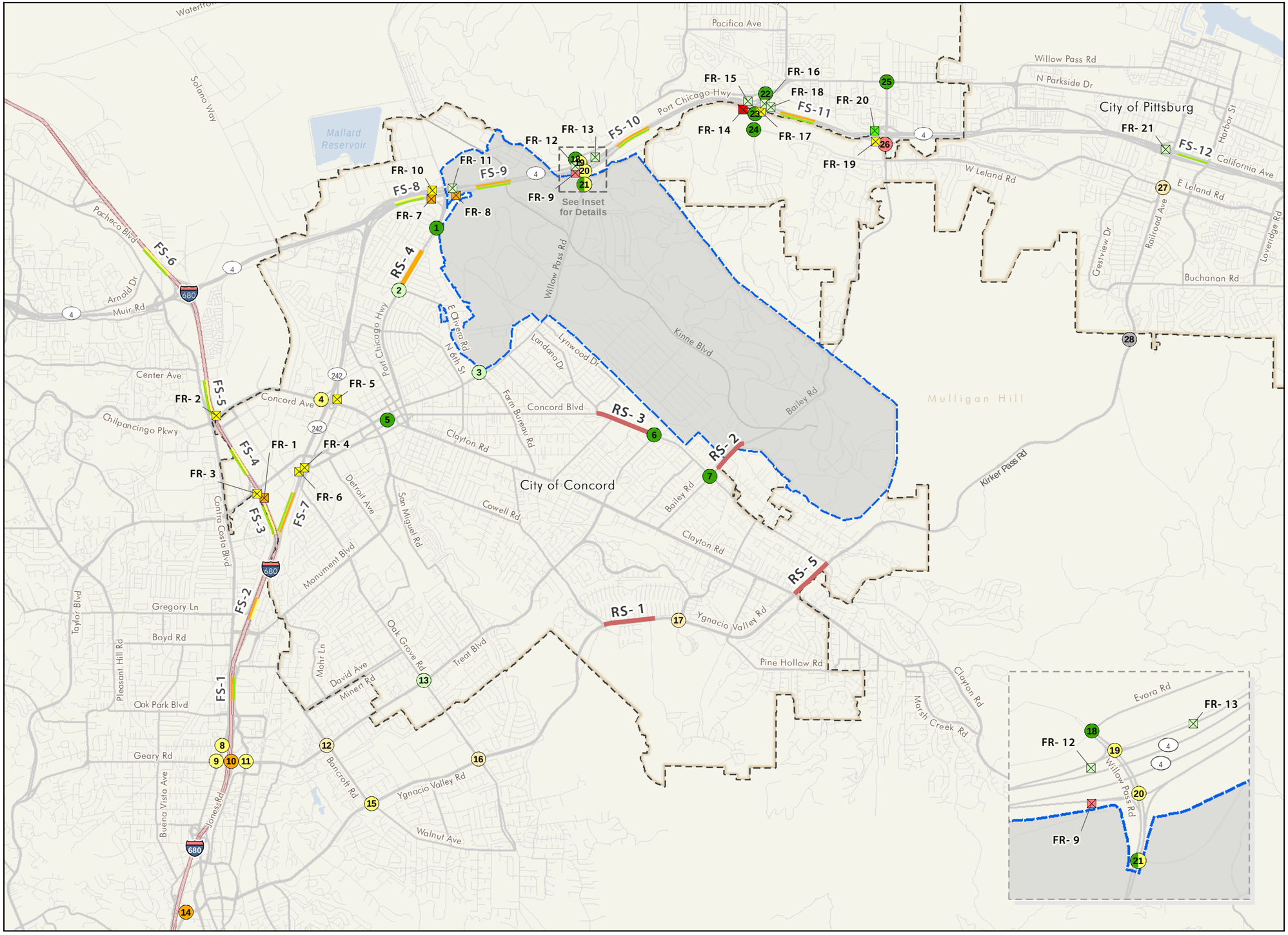


Figure 3.11-3
Study Locations PM
Peak Hour Level of Service
Former NWS Concord
Concord, California

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

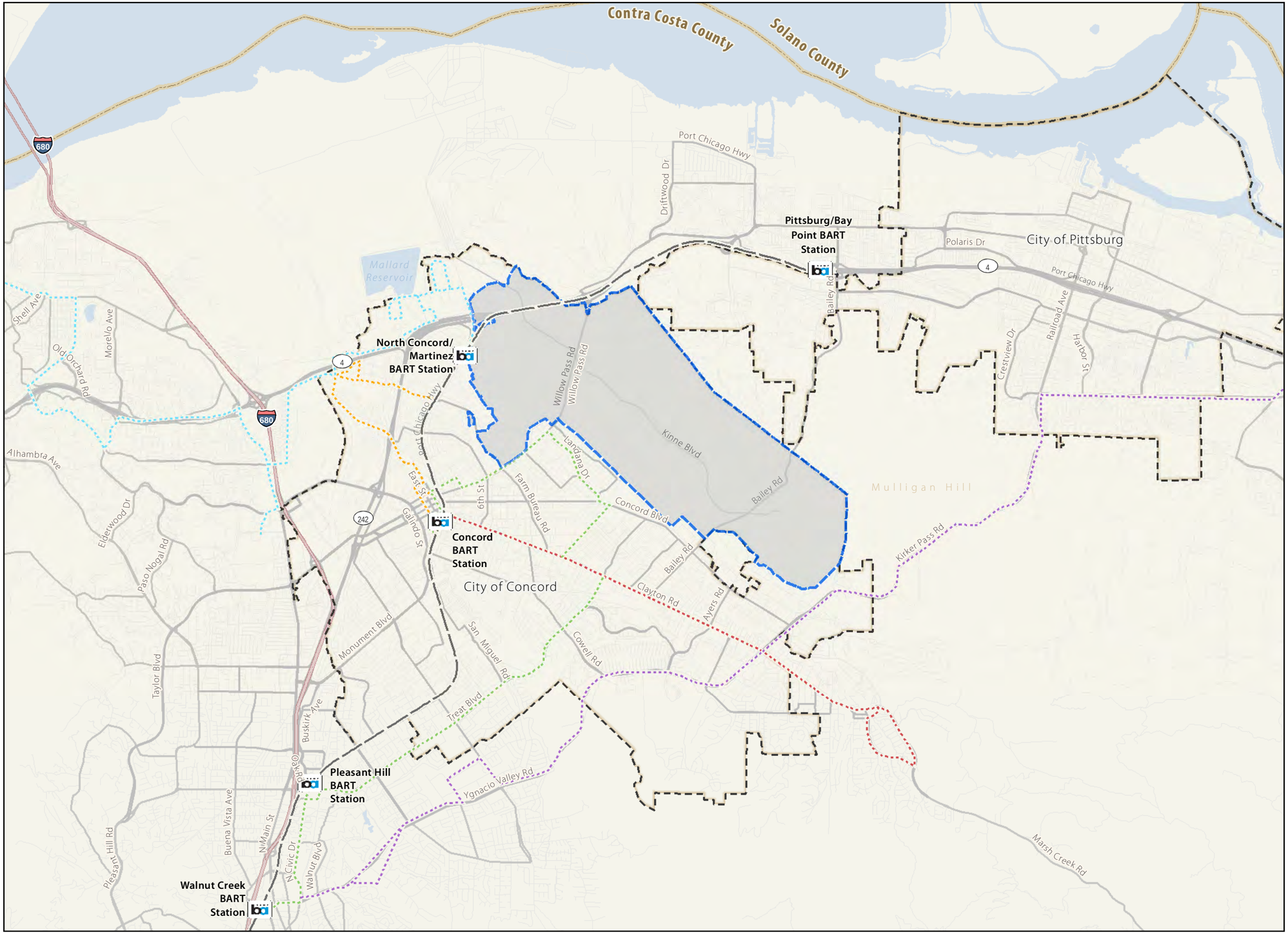


Figure 3.11-4

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

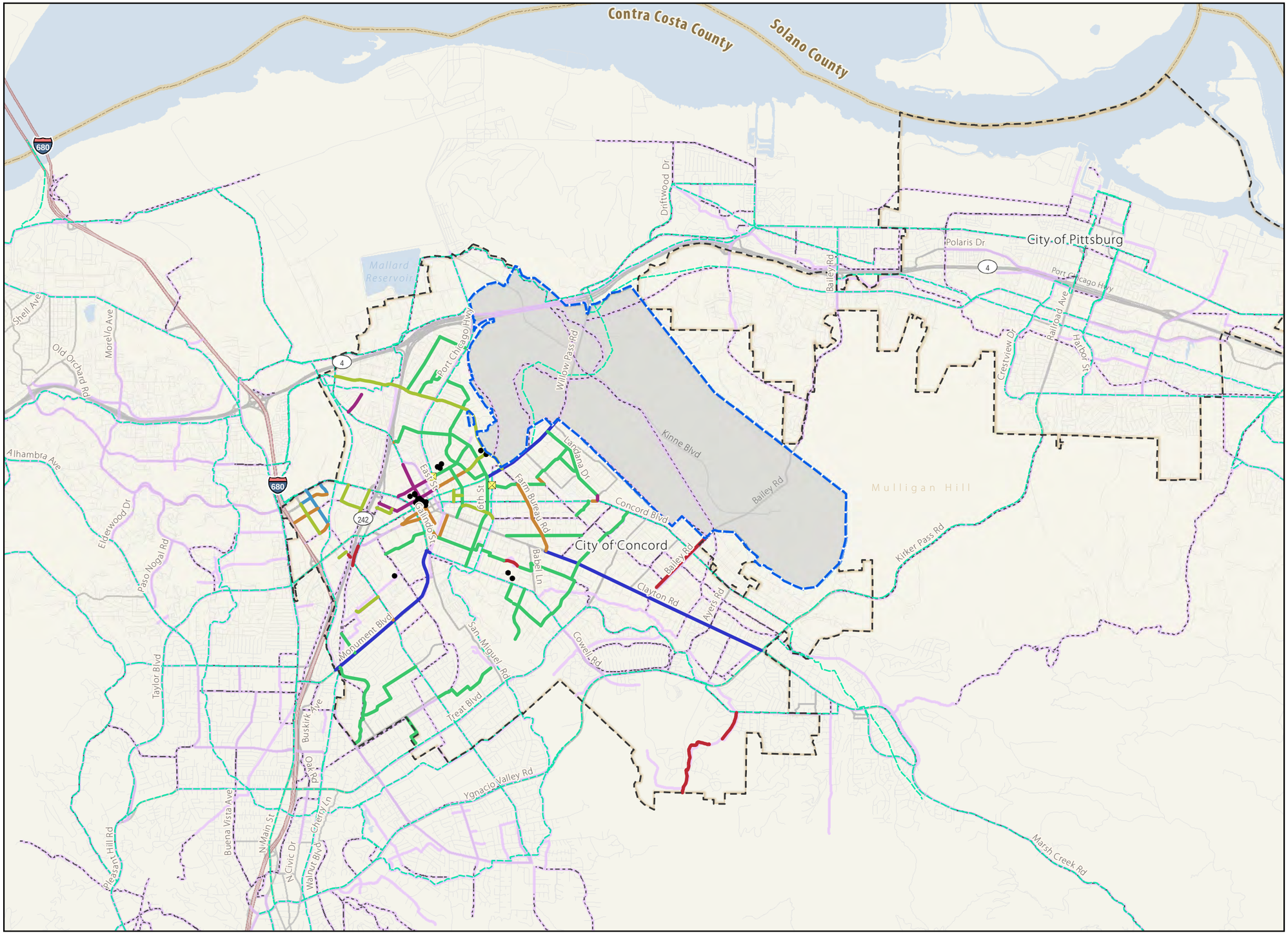


Figure 3.11-5
Bike Trails
Former NWS Concord
Concord, California

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

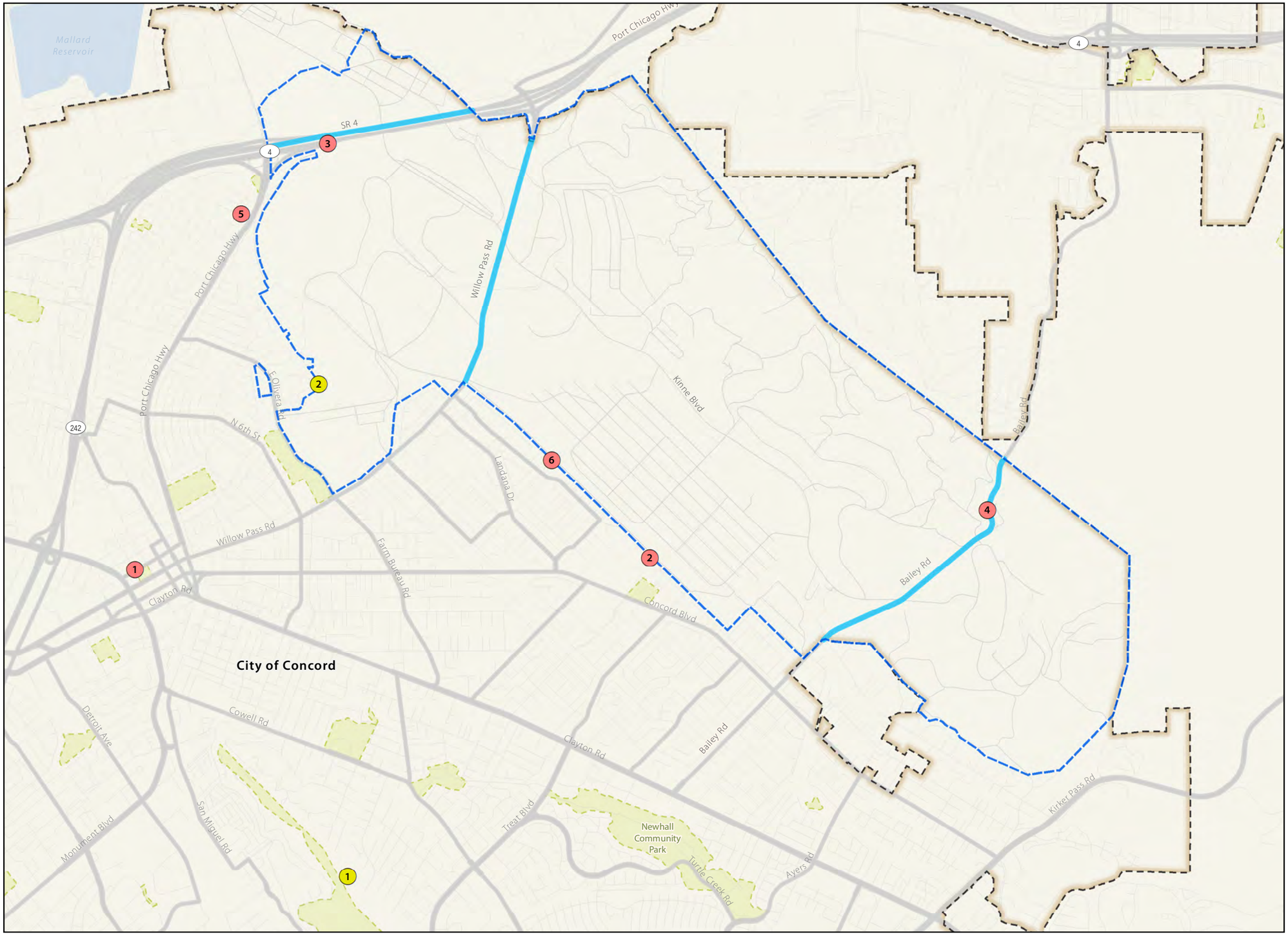


Figure 3.13-1
Visual Setting
Former NWS Concord
Concord, California

Legend

- Major Highway
- Local Road
- Former NWS Concord
- City Limits
- Waterbody
- Local Park
- Key Observation Point
- Viewpoint
- Transportation Corridor

	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 discharge~~s~~ 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

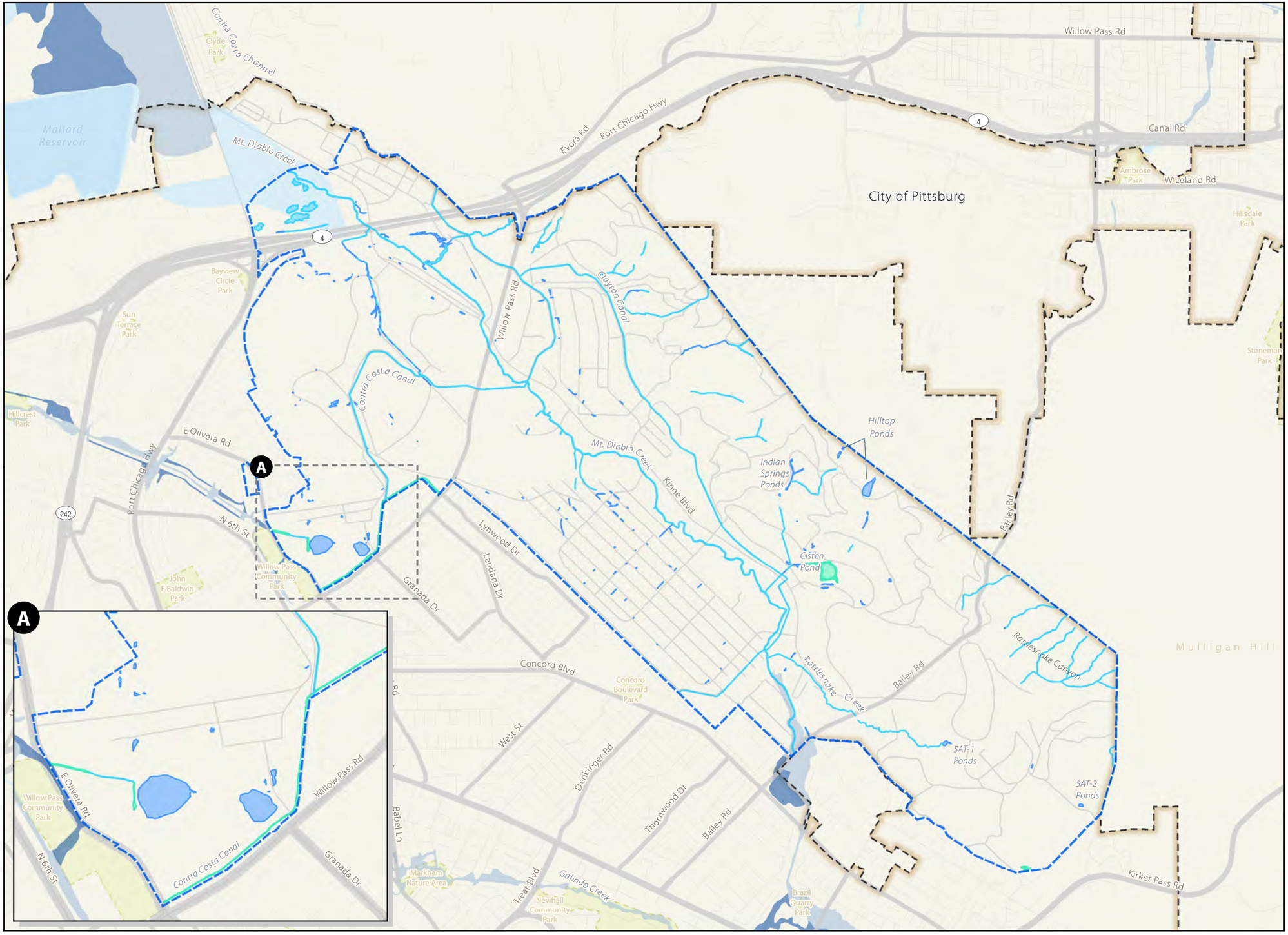


Figure 3.14-1
Surface Waters and Wetlands
Former NWS Concord
Concord, California

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).

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.

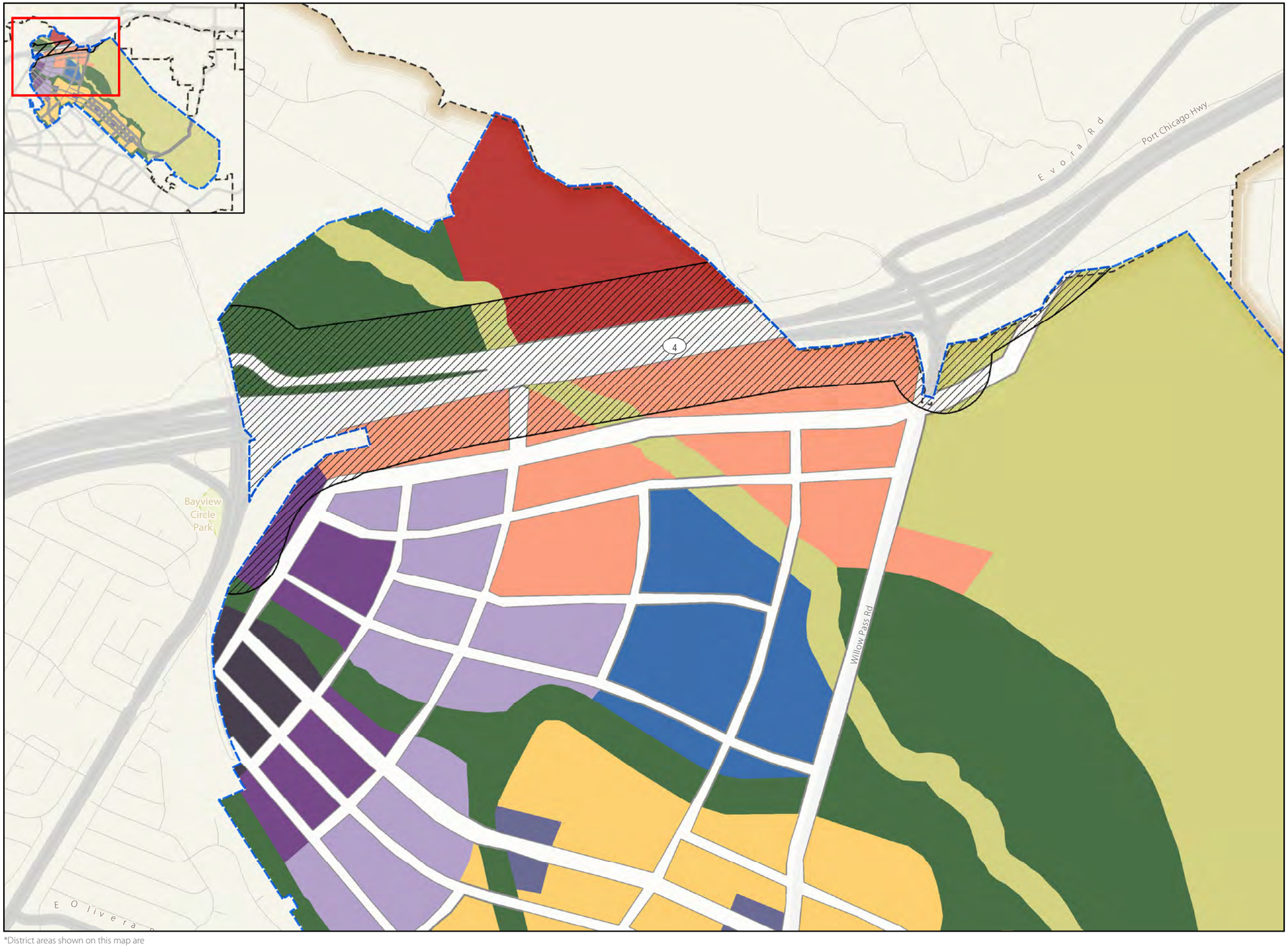
A CO hot spot modeling analysis was conducted at the 28 intersections considered in the transportation impact study (Kittelson and Associates, Inc., 2016). CO ambient concentrations were estimated at receptors along each intersection using the CALINE4 traffic emission dispersion model. The modeling inputs 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

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

	Pollutant					
Year	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.

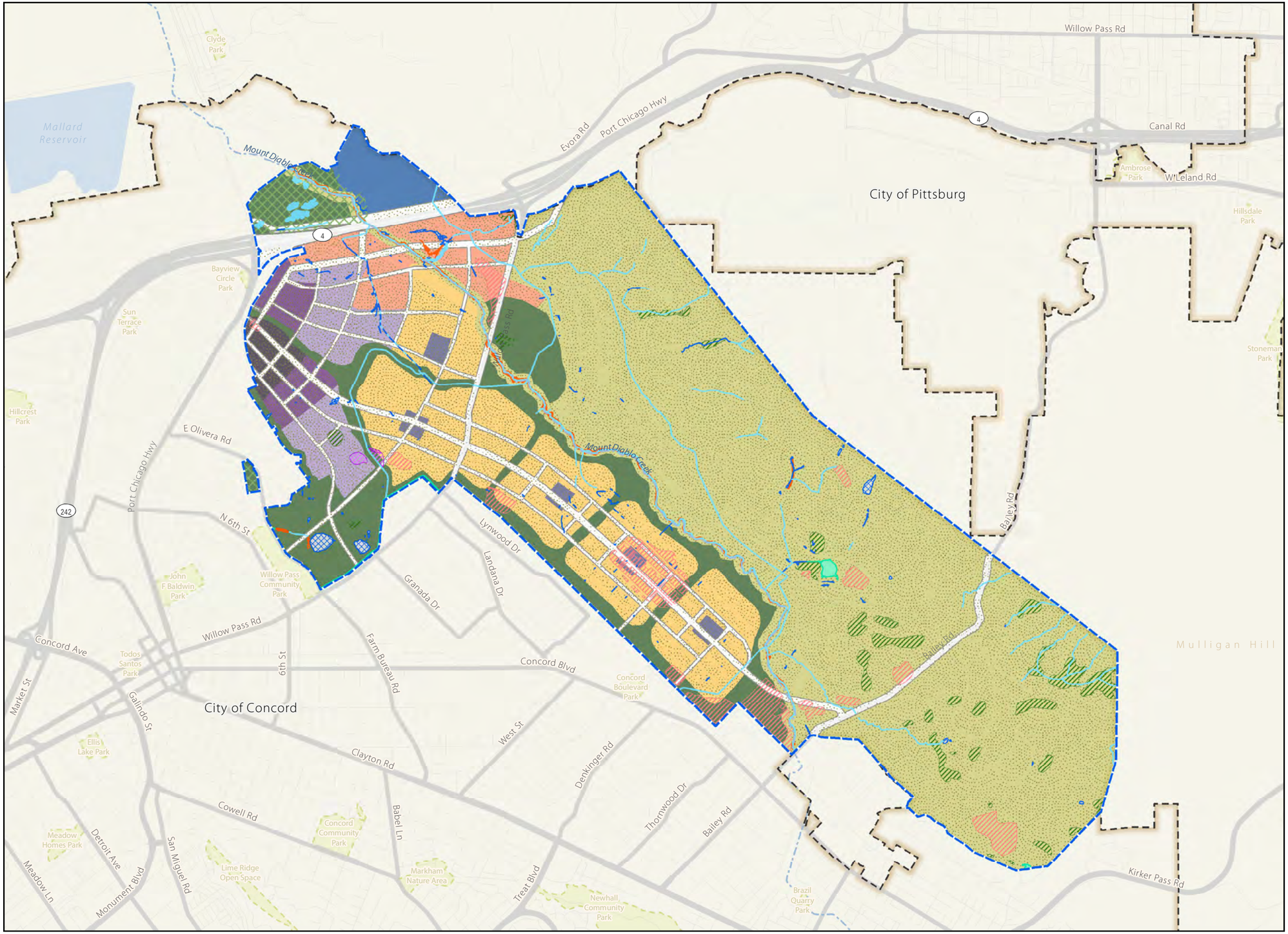
Portions of the Commercial Flex and TOD Neighborhood development districts, and the Conservation Open Space would be located within the buffer on the southern side of the highway, while the Campus Center and Mt. Diablo Golf Course are planned for the northern side. The City of Concord has committed in 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

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

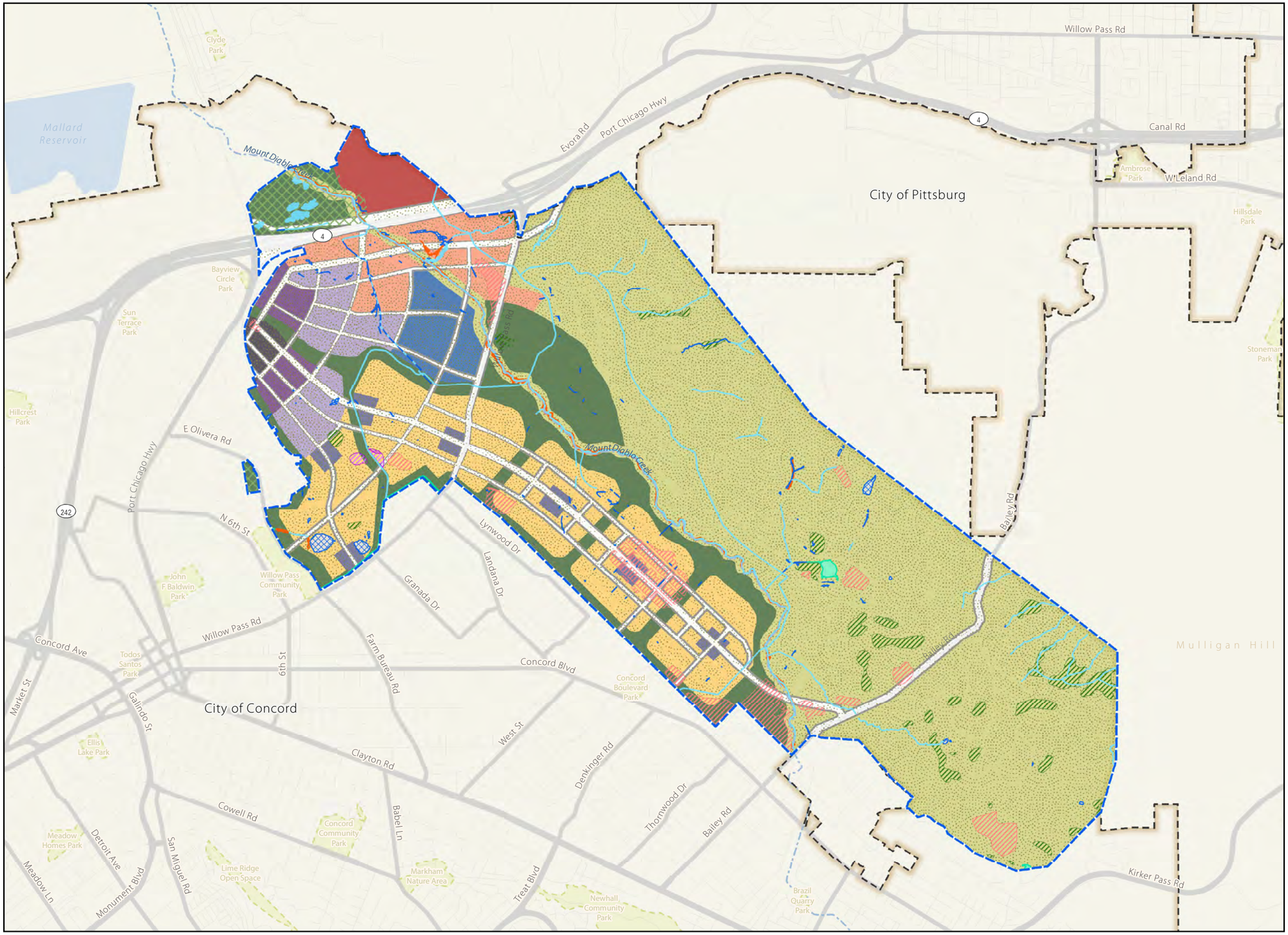


Figure 4.5-1
Alternative 1 Redevelopment and Potential Vegetation Impacts
Former NWS Concord
Concord, California

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.

*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.

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.

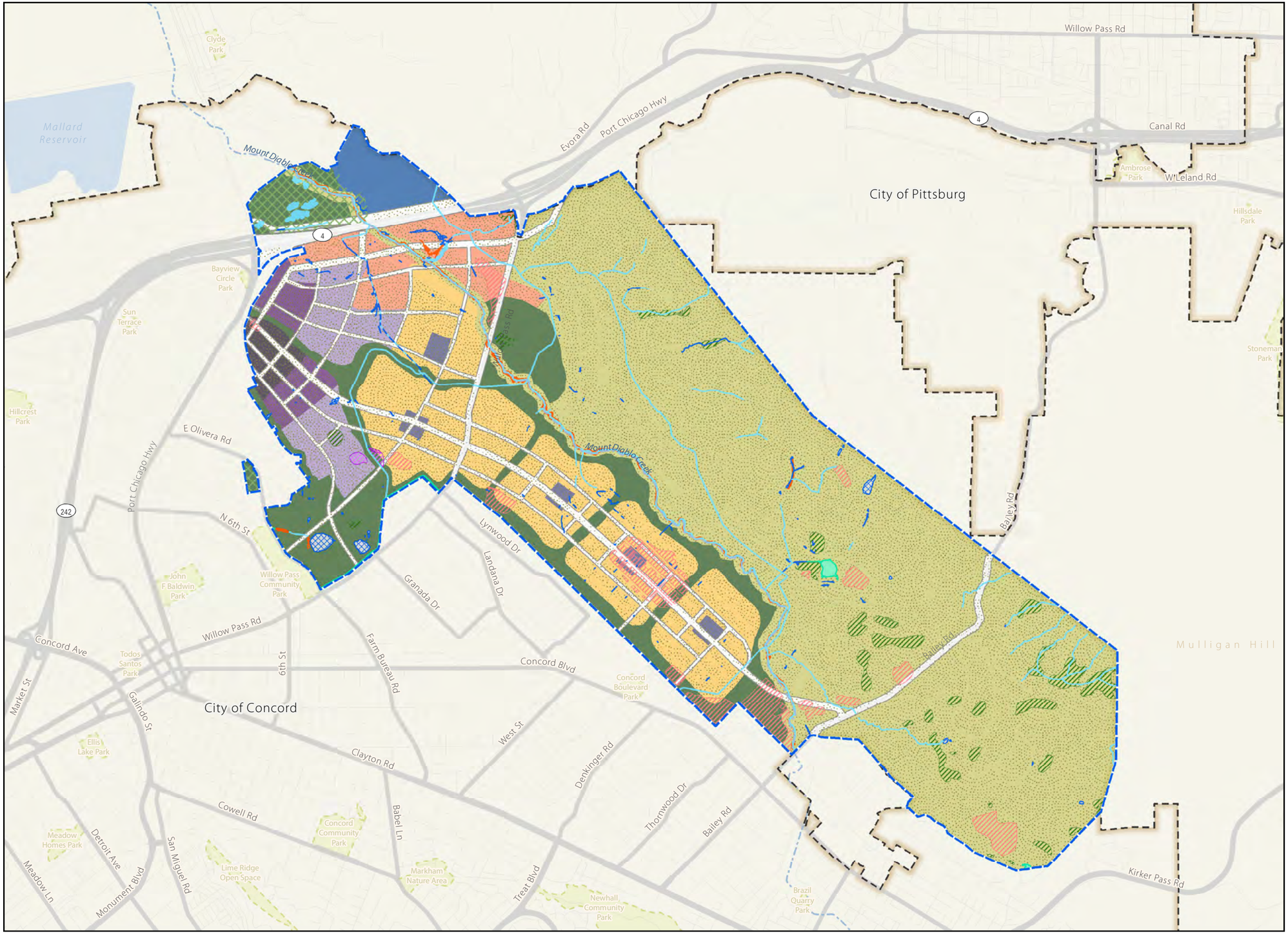
Therefore, construction and operation of Alternative 1 would not result in significant impacts on special status species, with the implementation of mitigation.

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

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

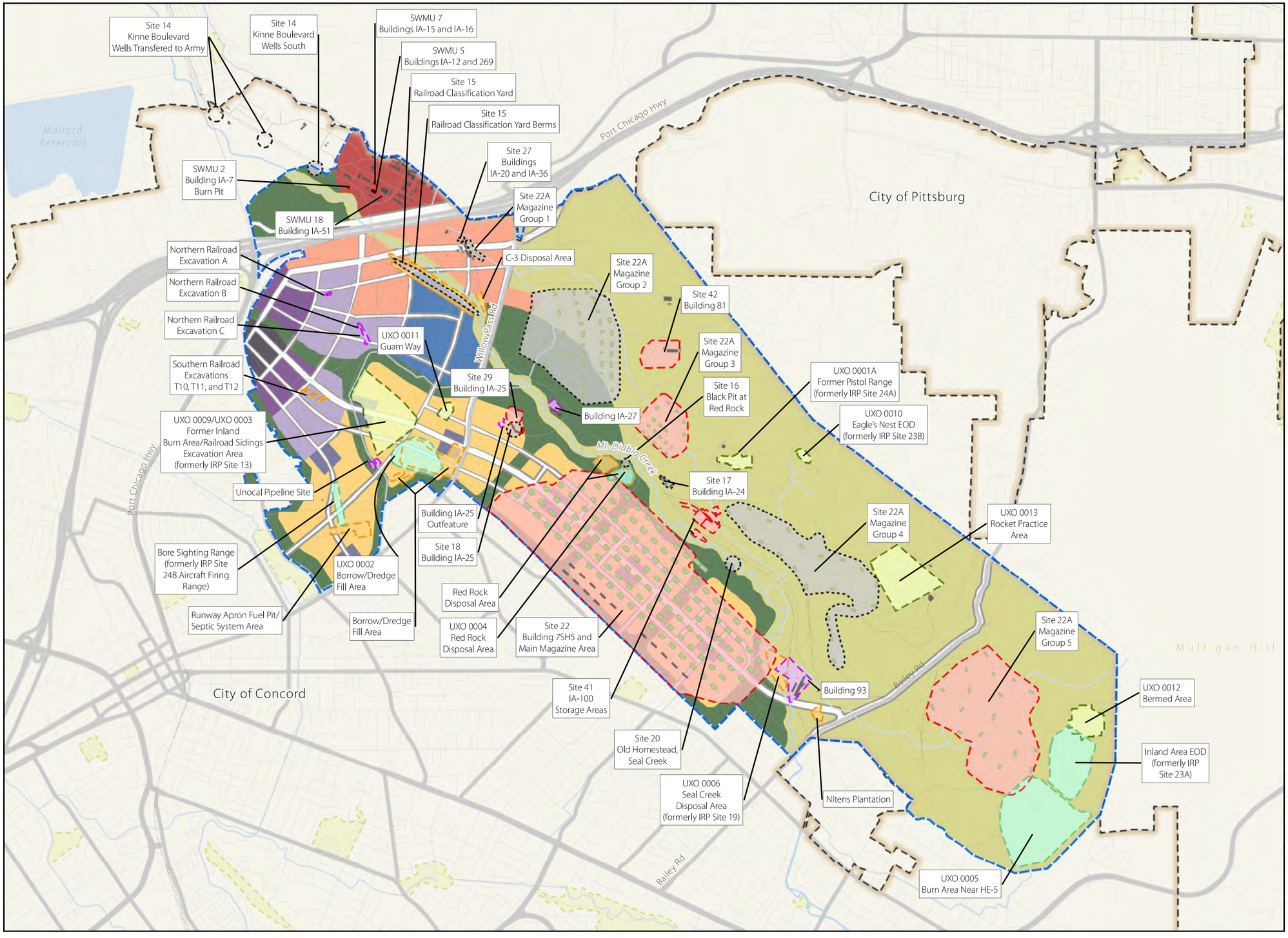


Figure 4.8-1
Alternative 1,
ER Program Sites
Former NWS Concord
Concord, California

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.

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.

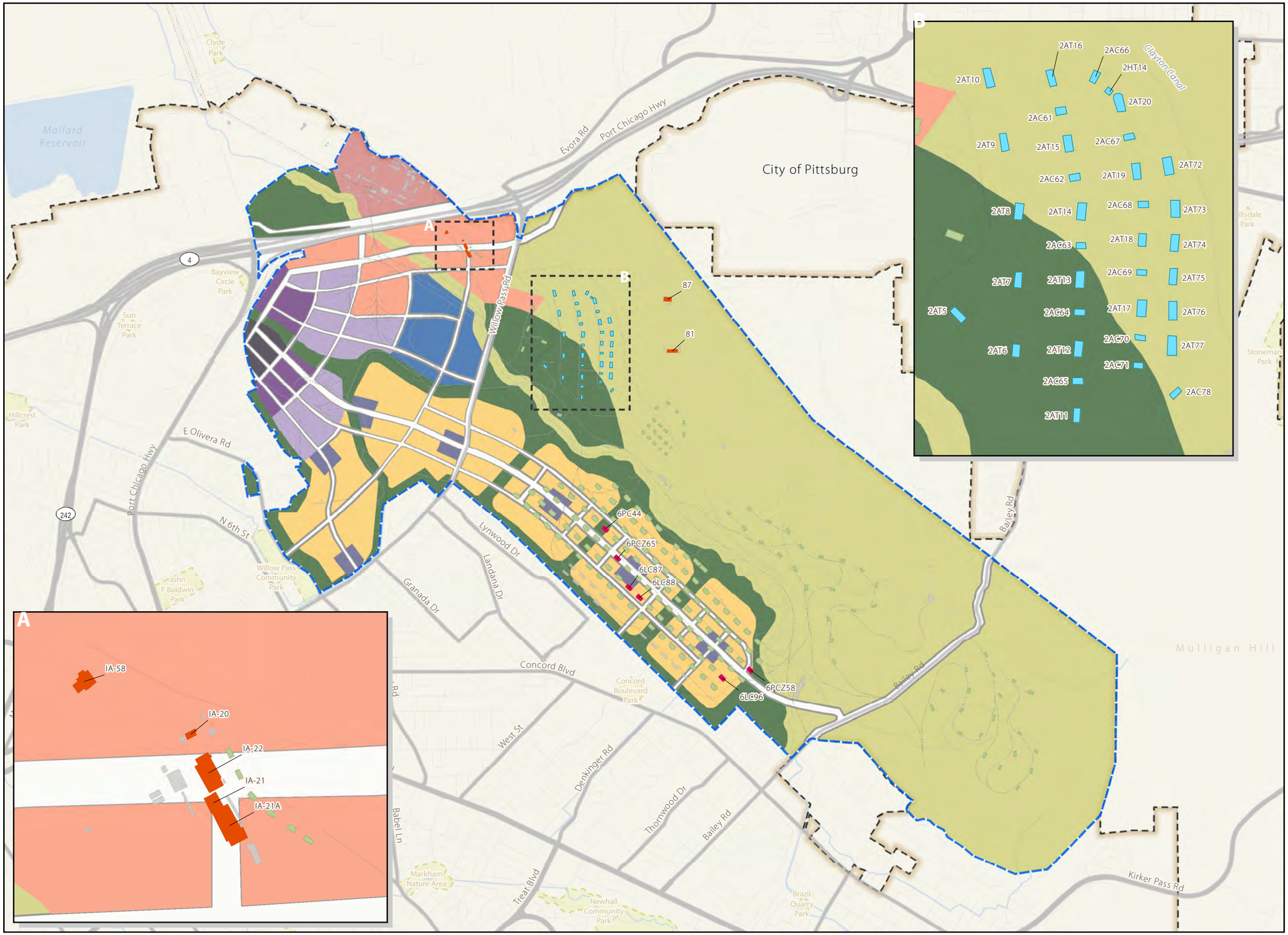
Table 4.8-2 Relationship of Radiological Sites to Proposed Development and Other Districts, Alternatives 1 and 2

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

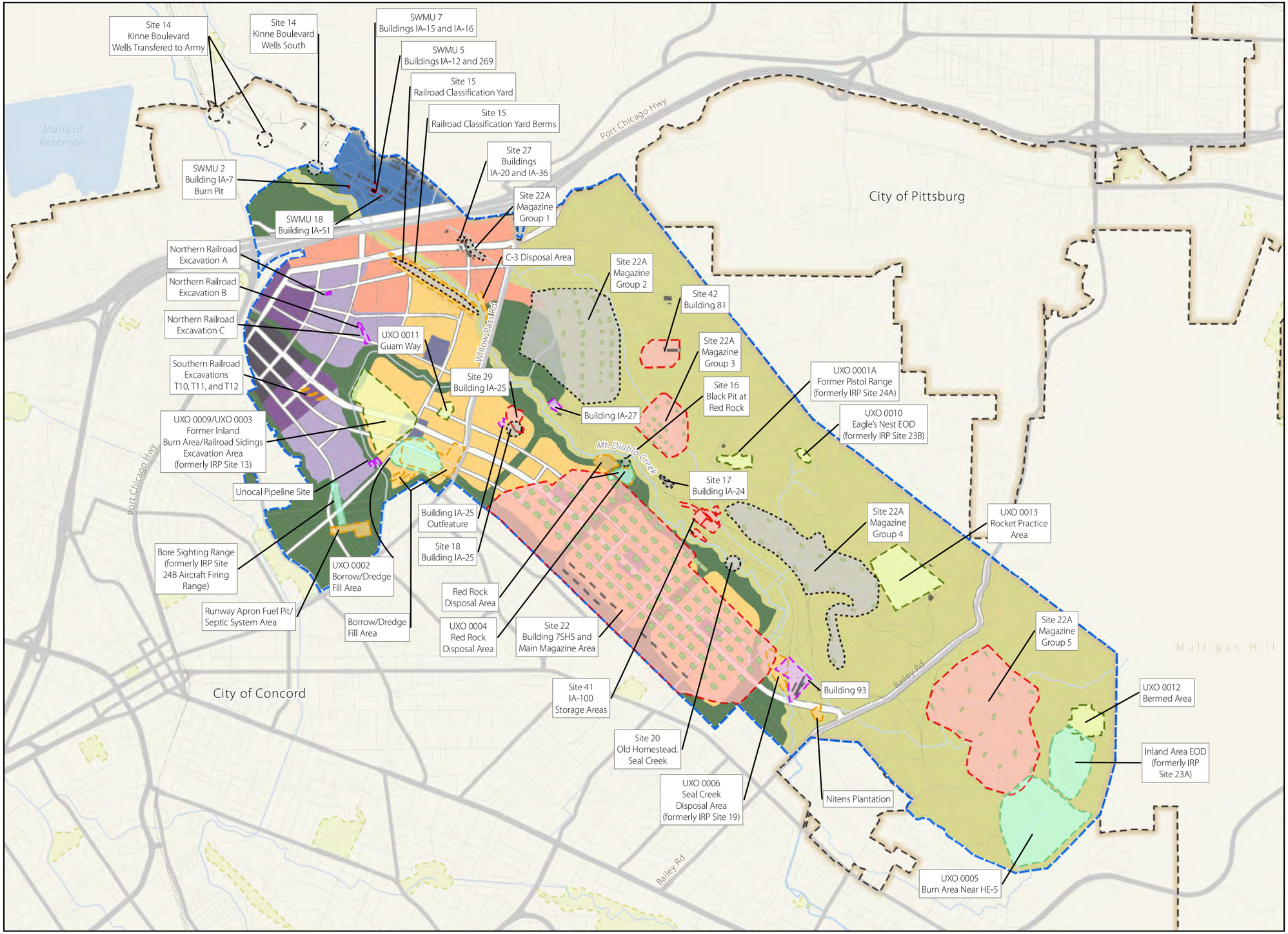


Figure 4.8-3
Alternative 2,
ER Program Sites
Former NWS Concord
Concord, California

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.

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

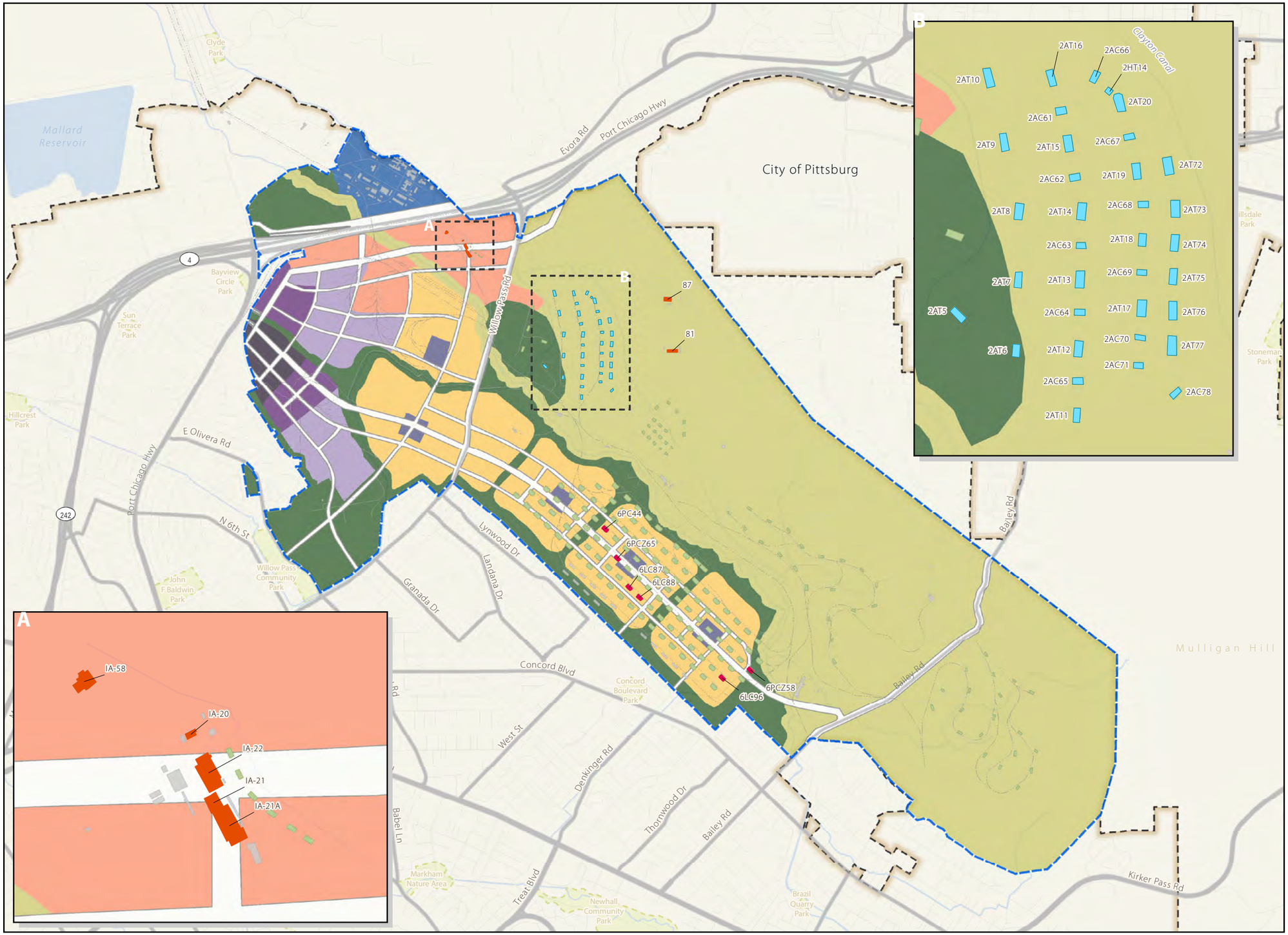
This section describes the potential impacts on the ambient noise environment resulting from disposal and reuse of the former NWS Concord property under Alternative 1, Alternative 2, and the No Action Alternative. It includes an analysis of the potential construction and operation impacts resulting from 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:

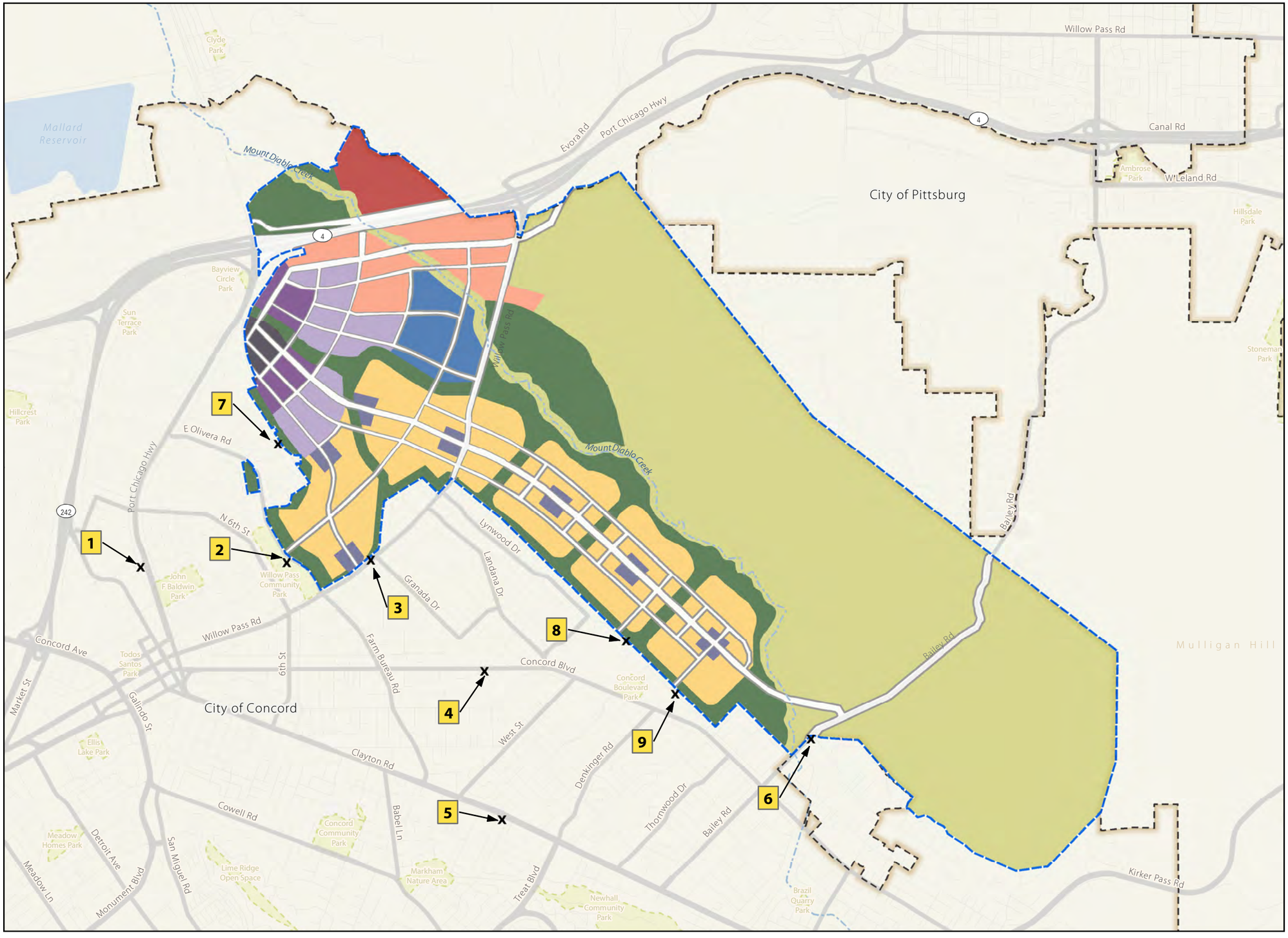
- Whenever construction occurs adjacent to occupied residences (onsite or offsite), temporary barriers shall be constructed around the construction sites to shield the ground floor from the noise-sensitive uses.
- Construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday 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

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

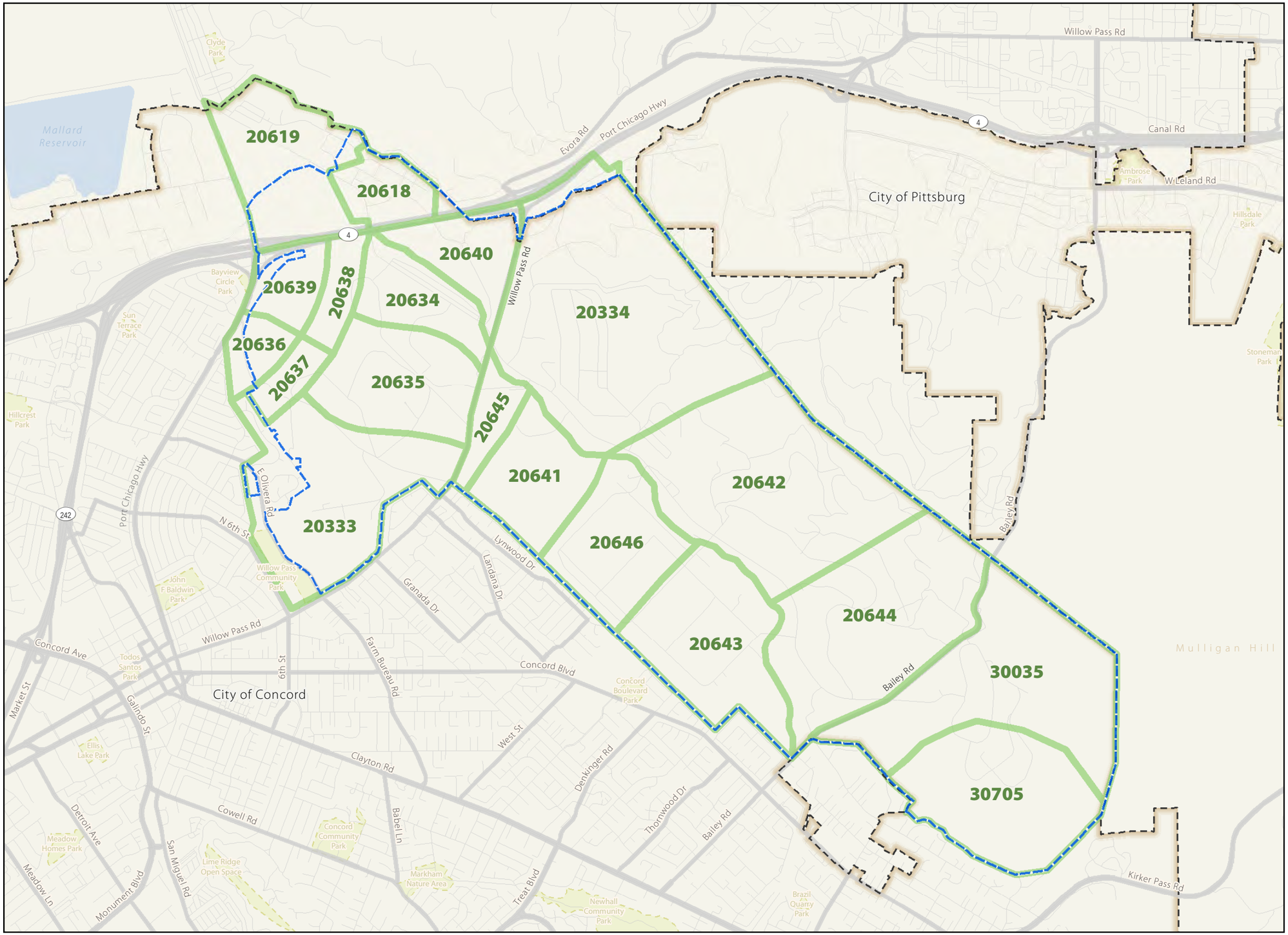


Figure 4.11-1
Traffic Analysis Zones
Former NWS Concord
Concord, California

Legend

- Former NWS Concord
- City Limits
- Traffic Analysis Zones (TAZs)

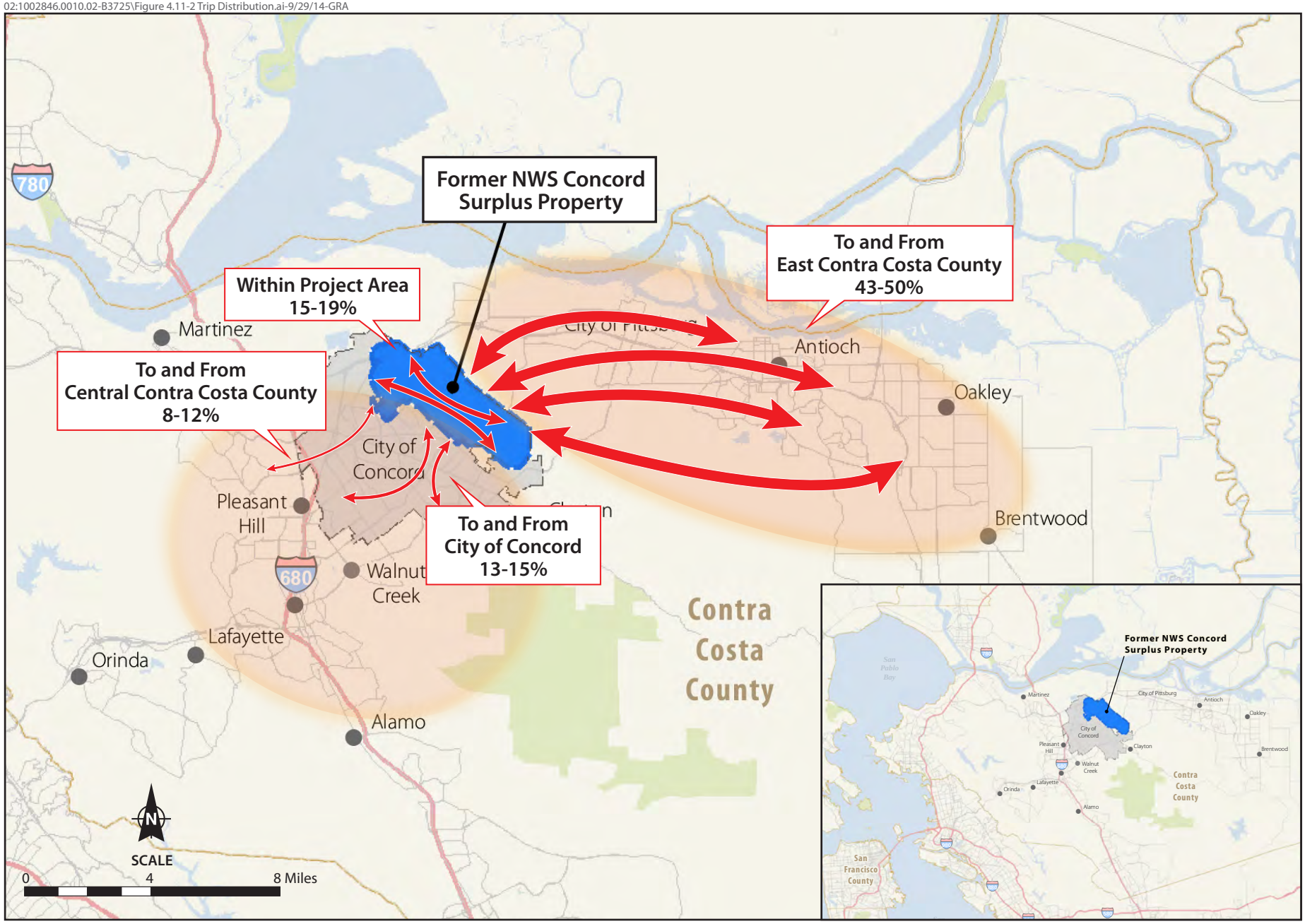
SCALE

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

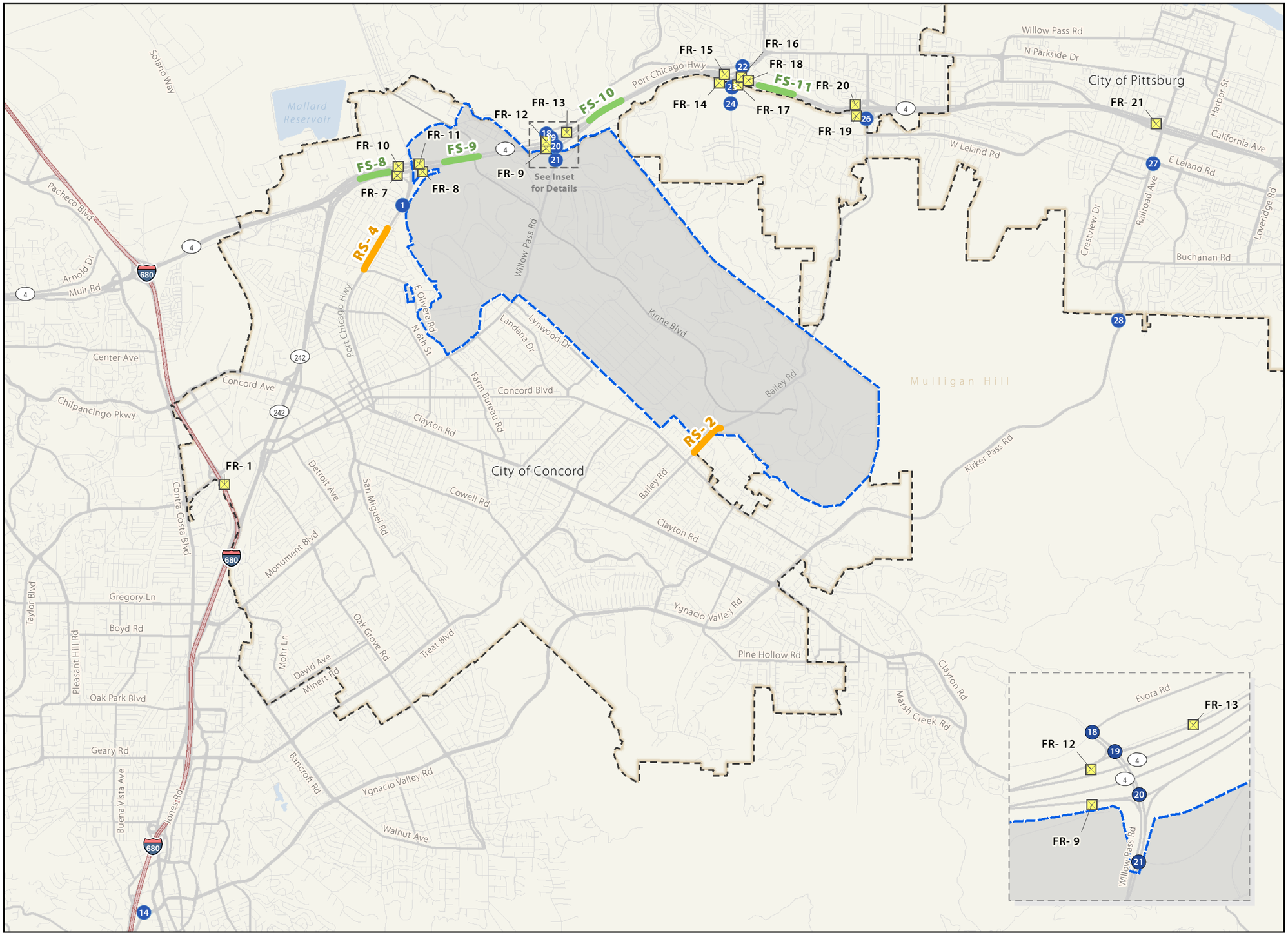


Figure 4.11-3
Impacted Traffic Locations Under Alternative 1 and Alternative 2
Former NWS Concord
Concord, California

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		Alternative 1		Alternative 1 w/ Mitigation		Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2		Alternative 2 w/ Mitigation		Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
		AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
		LOS (v/c)		LOS (v/c)		LOS (v/c)			LOS (v/c)		LOS (v/c)		
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		Alternative 1		Alternative 1 w/ Mitigation		Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2		Alternative 2 w/ Mitigation		Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
		AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
		LOS (v/c)		LOS (v/c)		LOS (v/c)			LOS (v/c)		LOS (v/c)		
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		Alternative 1		Alternative 1 w/ Mitigation		Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2		Alternative 2 w/ Mitigation		Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
		AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
		LOS (v/c)		LOS (v/c)		LOS (v/c)			LOS (v/c)		LOS (v/c)		
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		Alternative 1		Alternative 1 w/ Mitigation		Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2		Alternative 2 w/ Mitigation		Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
		AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
		LOS (v/c)		LOS (v/c)		LOS (v/c)			LOS (v/c)		LOS (v/c)		
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		Alternative 1		Alternative 1 w/ Mitigation		Alternative 1 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP	Alternative 2		Alternative 2 w/ Mitigation		Alternative 2 Physical Improvement Measures that May be Considered in Accordance with the Adopted MMRP
			AM	PM	AM	PM	AM	PM		AM	PM	AM	PM	
			LOS		LOS		LOS			LOS		LOS		
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

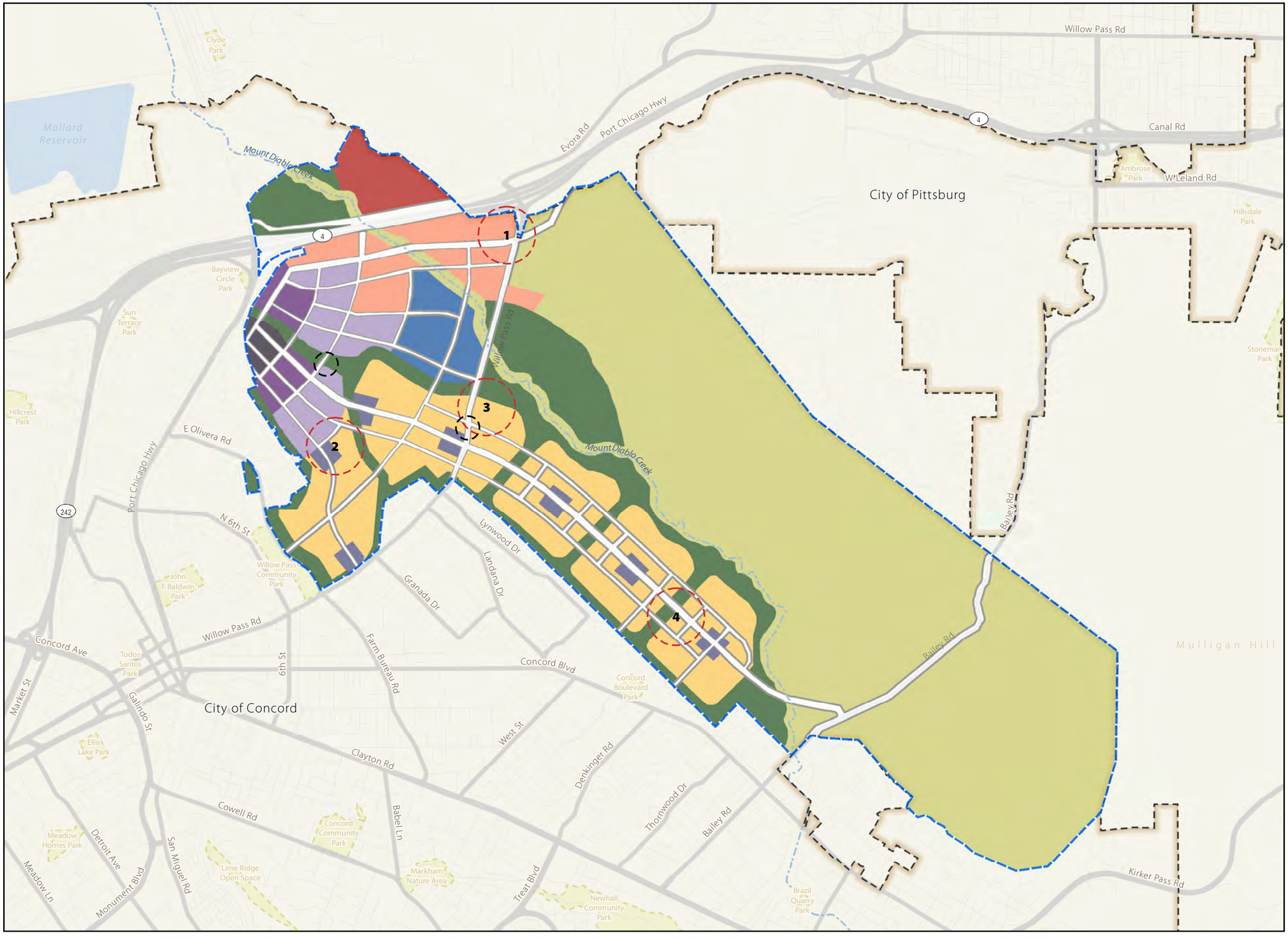
For options 1 through 3, the overhead transmission line to serve the substation would tie into PG&E's existing Pittsburg-Tidewater 230kV transmission line near San Marco Boulevard and SR 4 in Pittsburg and run southwesterly to the project site. For location 4 near Concord Boulevard and West Street, the 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

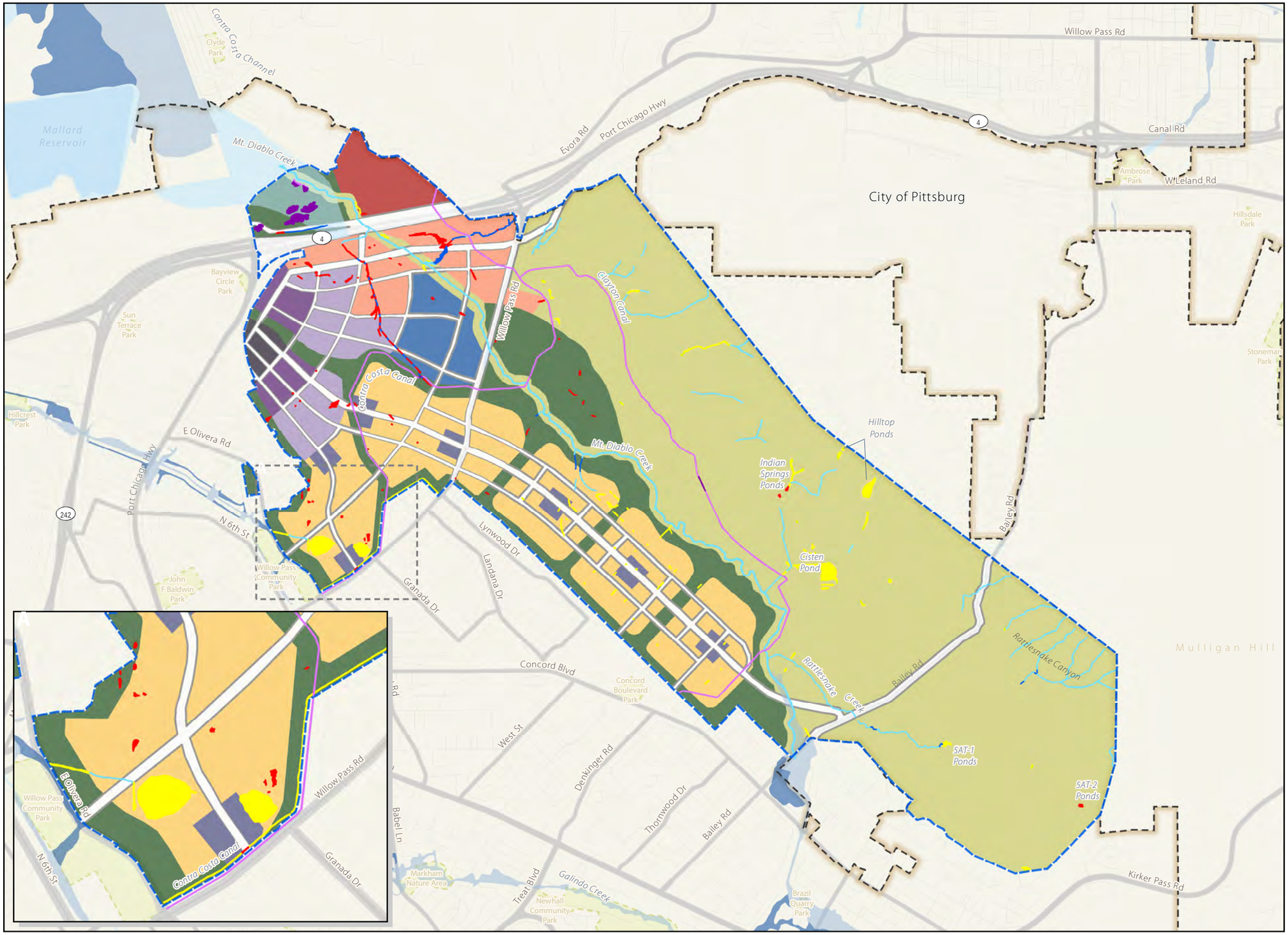
Source of Impact	Other Waters[1]	
	Total Fill (acres)	Net Loss (acres)
Area Plan Economic Development	1.42	1.42
Mt. Diablo Creek Restoration	1.00	0[2]
Conservation Enhancements	0.01	0.01
Totals	**2.43**	**1.43**

[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

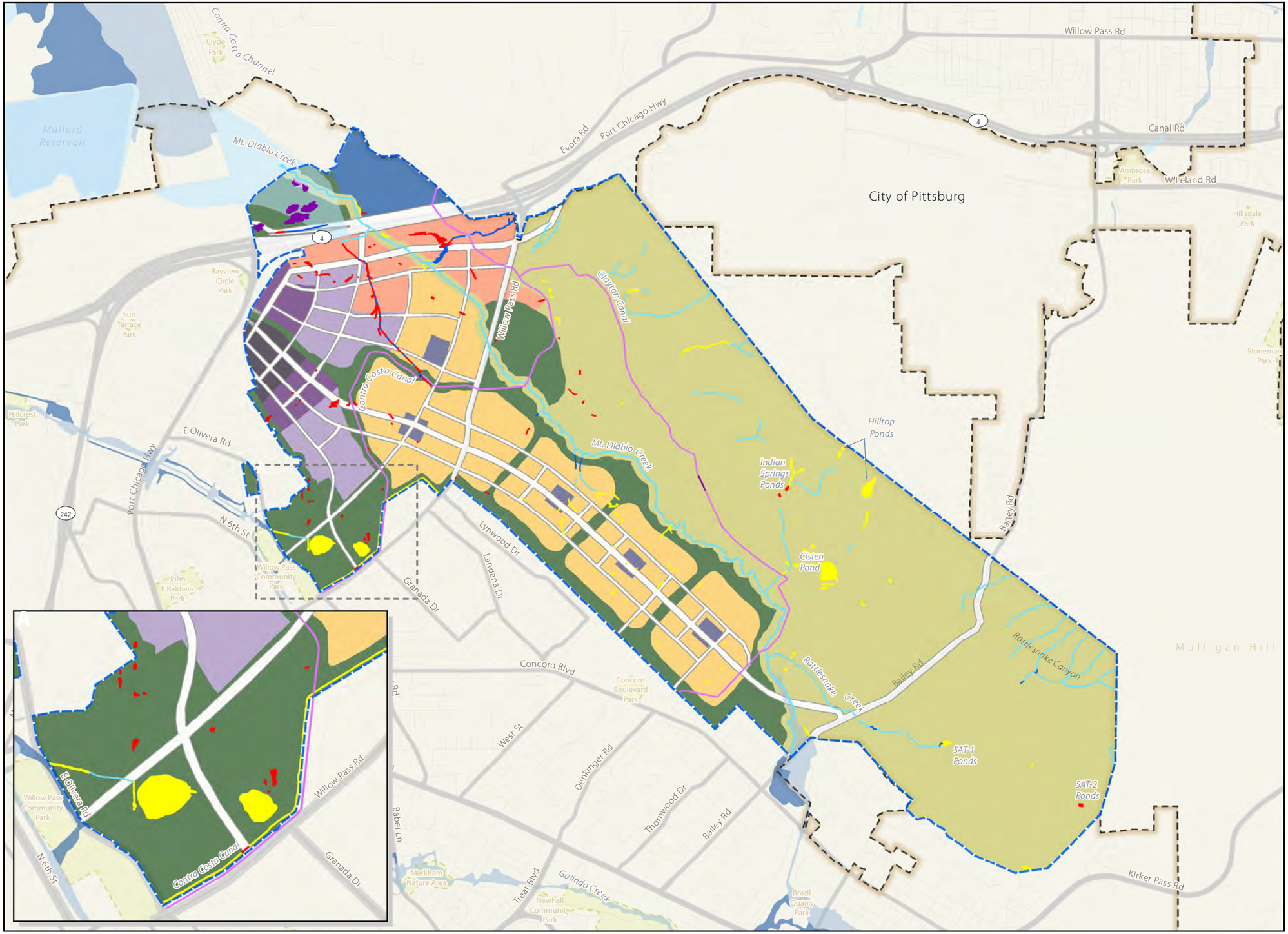
Impacts on groundwater quality under Alternative 2 would be similar to those discussed for Alternative 1, and could include the potential for construction dewatering and the introduction of pollutants associated with impervious surfaces. Minimization measures such as the adherence to permit conditions 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

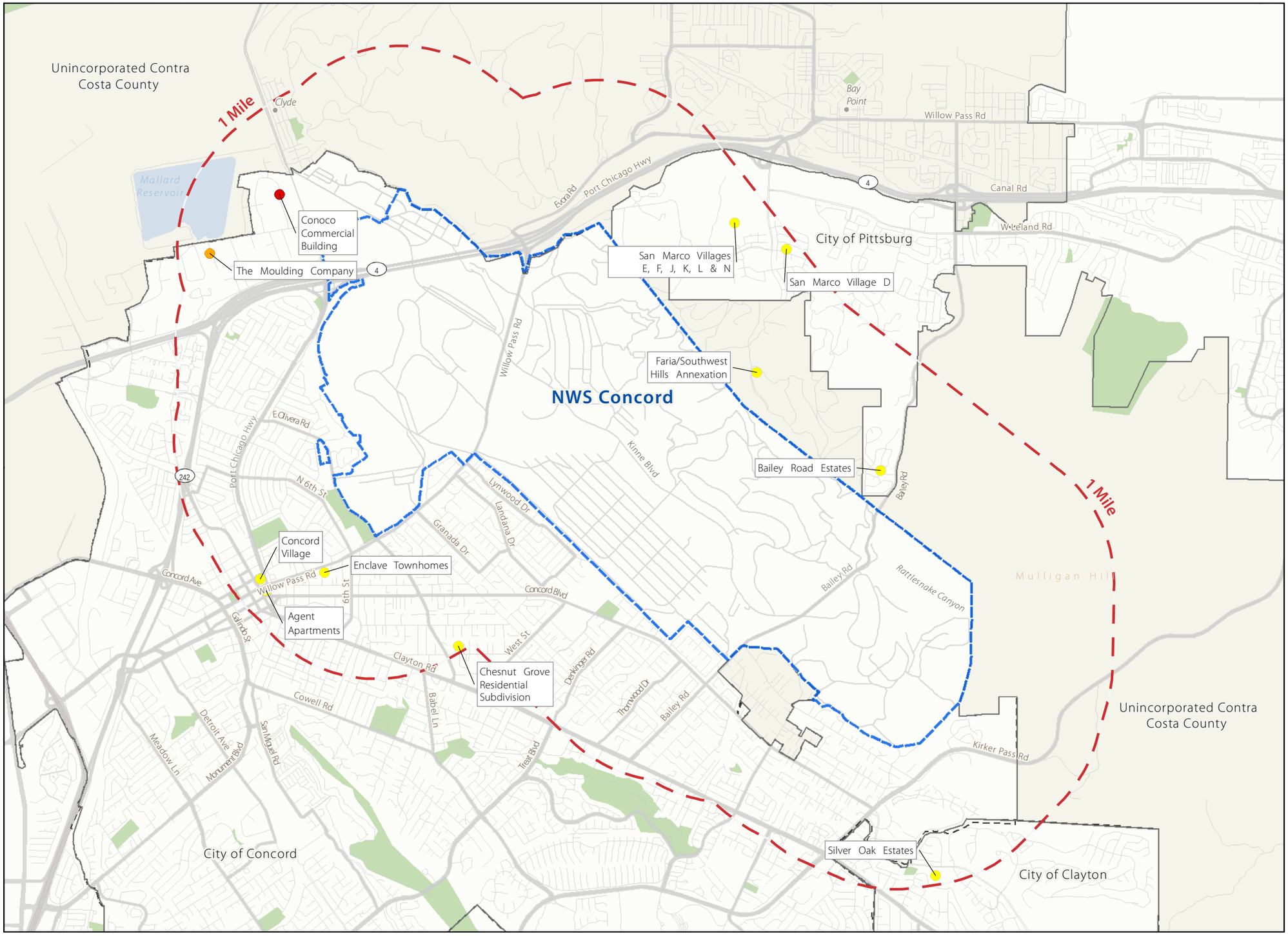


Figure 5-1
Reasonably Foreseeable Developments within 1Mile of the Project*
Former NWS Concord
Concord, California

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.

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

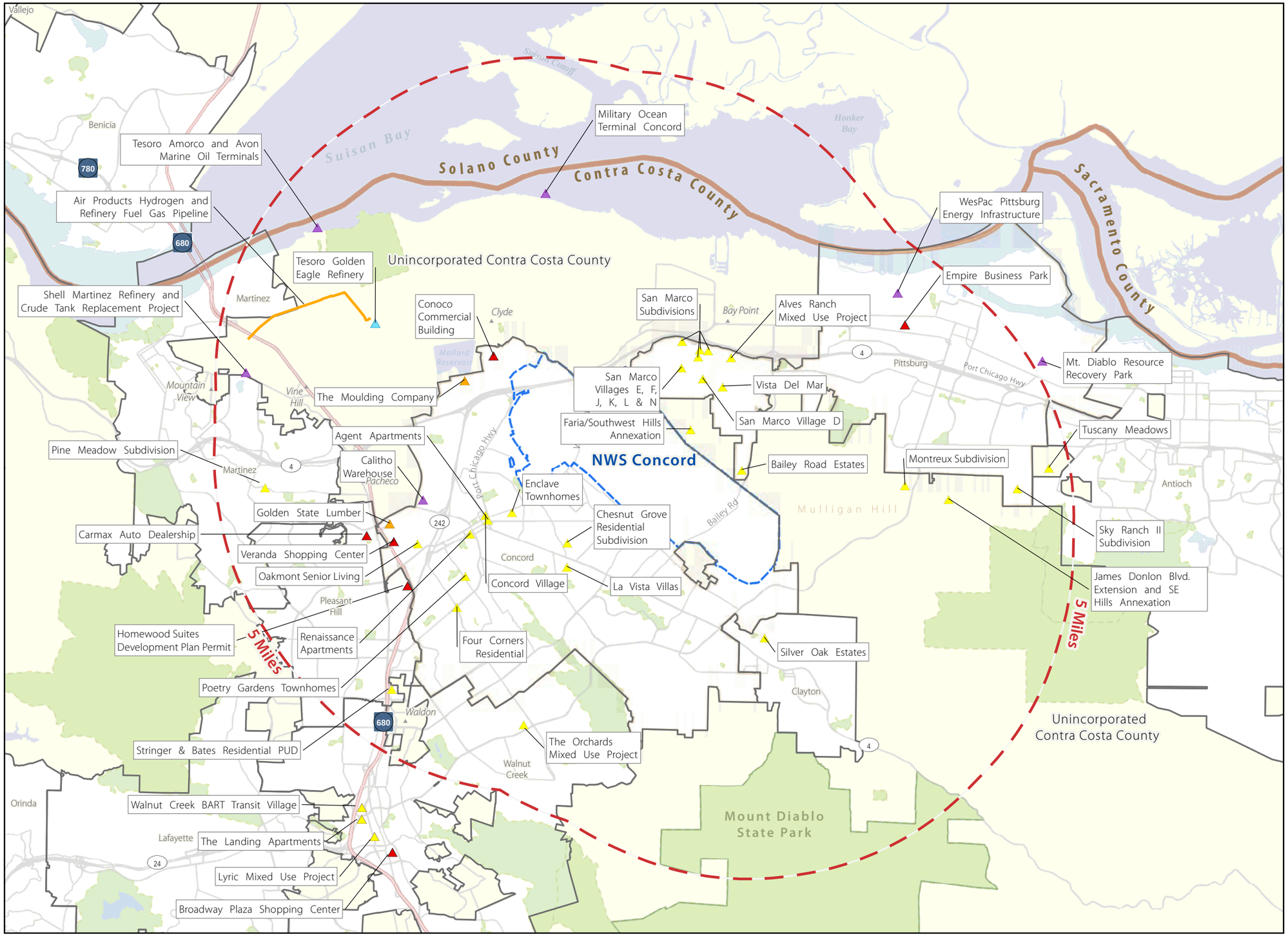


Figure 5-2
Reasonably Foreseeable Projects within 5 Miles of the Project*
Former NWS Concord
Concord, California

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.

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

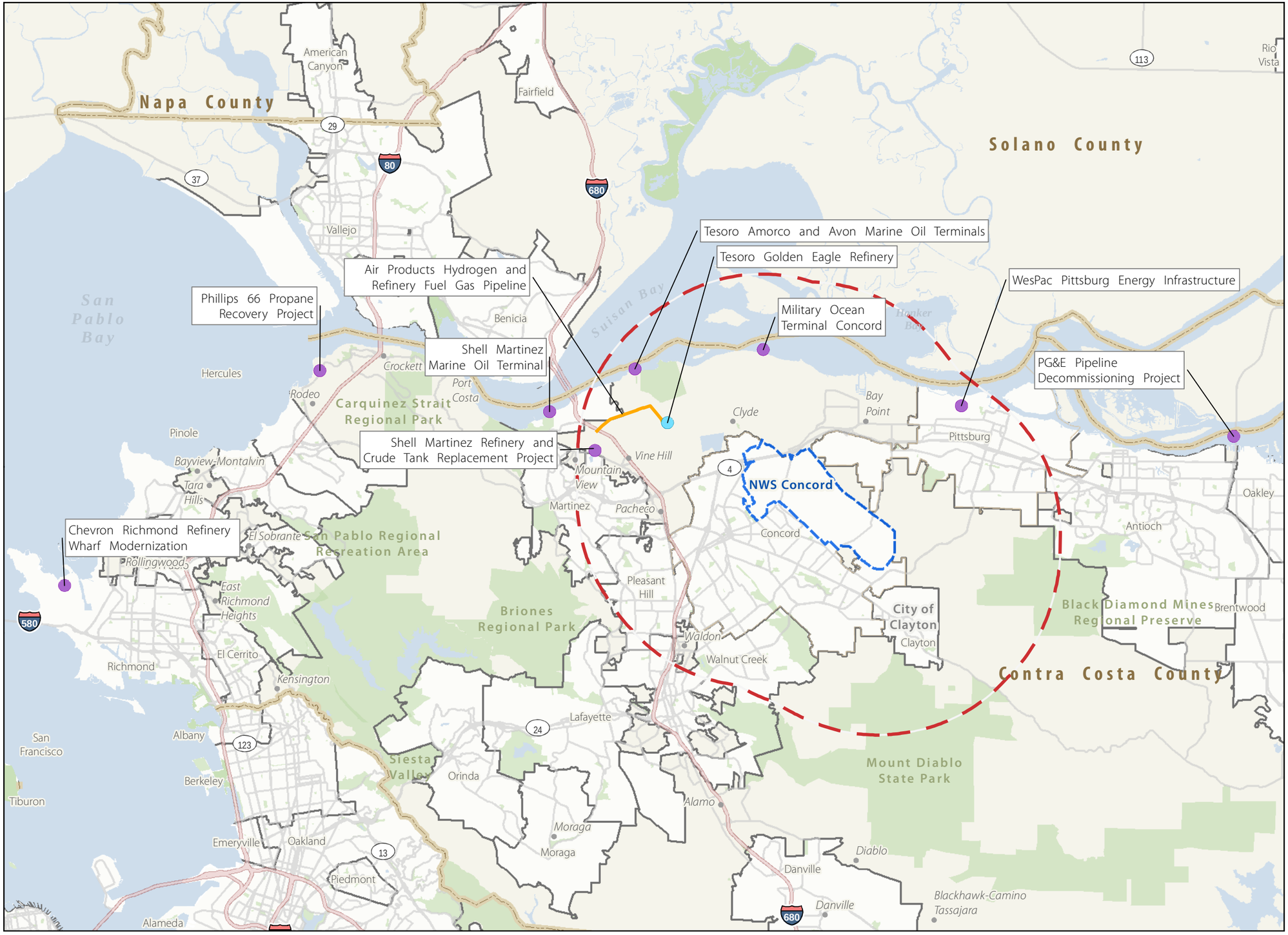


Figure 5-3

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_AnnualReport.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.