FINAL ENVIRONMENTAL ASSESSMENT FOR THE DISPOSAL AND REUSE OF THE NORTH HOUSING AREA AT NAVAL AIR STATION ALAMEDA ALAMEDA, CALIFORNIA

Prepared for:

Base Realignment and Closure
Program Management Office West
San Diego, California

OCTOBER 2009

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NAVFAC SW
Base Realignment and Closure
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October 2009

FINAL
ENVIRONMENTAL ASSESSMENT

Lead Agency for the EA:	Department of the Navy; U.S. Marine Corps
Title of Proposed Action:	Navy Base Realignment and Closure Program Management Office West
Affected Region:	City of Alameda, California
Designation:	Environmental Assessment

Abstract

This Environmental Assessment (EA) evaluates the potential environmental impacts associated with the disposal and reuse of approximately 42 acres (15 hectares) of surplus property within the North Housing Parcel at Naval Air Station Alameda, in the City of Alameda, California. Under the proposed action, the North Housing Parcel would be transferred from the Navy to entities that have applications that are approved by the Alameda Reuse and Redevelopment Authority. This transfer would convey the property to be redeveloped consistent with the amended Community Reuse Plan: Main Street Neighborhoods Update adopted by the ARRA Board on March 4, 2009, and would, in part, meet future low- and moderate-income housing needs as part of any future residential development consistent with the current Neighborhood Residential District (R–4) zoning designation.

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) 42 U.S.C. § 4321-4370d [1994], as implemented by Council on Environmental Quality (CEQ) regulations 40 C.F.R. § 1500-1508 [1997], the Department of the Navy Base Realignment and Closure (BRAC) Implementation Guidance dated March 23, 2007, and Defense Base Closure and Realignment Act (DBCRA) of 1990, Public Law (P.L.) 101-510 Title XXIX.

Potential impacts have been analyzed for land use, visual resources, socioeconomics, public services, utilities, cultural resources, biological resources, geology and soils, water resources, traffic and circulation, air quality, noise, and hazardous materials and waste.

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October 2009

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LIST OF ACRONYMS AND ABBREVIATIONS

ABAG	Association of Bay Area Governments
ACM	Asbestos Containing Material
ADT	Average Daily Trips
AMSL	above mean sea level
AQI	air quality index
ARPA	Archaeological Resource Protection Act
ARPD	Alameda Recreation and Park Department
ARRA	Alameda Reuse and Redevelopment Authority
AST	above ground storage tank
AUSD	Alameda Unified School District
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Bay Area	San Francisco Bay Area
BCP	BRAC Cleanup Plan
bgs	below ground surface
BMP	best management practice
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
C.C.R.	California Code of Regulations
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
C.F.R.	Code of Federal Regulations

CGS	California Geological Survey
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon dioxide
COE	U.S. Army Corps of Engineers
COPC	contaminants of potential concern
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DBCRA	Defense Base Closure and Realignment Act
DDT	dichlorodiphenyltrichloroethane
DHS	Department of Health Services
DoD	Department of Defense
DTSC	Department of Toxic Substances Control
DU/AC	dwelling units per acre
EA	Environmental Assessment
EBMUD	East Bay Municipal Utility District
EBS	Environmental Baseline Survey
EIS	Environmental Impact Statement
EO	Executive Order
ERA	Ecological Risk Assessment
FEIS	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FFSRA	Federal Facility Site Remediation Agreement
Fire Department	Alameda Fire Department
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Studies
FISC	Fleet Industrial Supply Center
FISCA	Fleet Industrial Supply Center Annex
FONSI	Finding of No Significant Impact
FOSL	Finding of Suitability to Lease
FOST	Finding of Suitability to Transfer
FWBZ	First Water-bearing Zone

HCM	Highway Capacity Manual
HHRA	Human Health Risk Assessment
HUD	Housing and Urban Development
IC	Institutional Controls
IR	Installation Restoration
ITE	Institute of Transportation Engineers
kgs/day	kilograms per day
LBP	lead based paint
lbs/day	pounds per day
L_{dn}	day/night average sound level
L_{eq}	equivalent noise level
LIFOC	Lease in Furtherance of Conveyance
LOS	Level of Service
LRA	Local Redevelopment Authority
mg/kg	milligrams per kilogram
MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards
NACIP	Navy Assessment and Control of Installation Pollutants
NAHC	Native American Heritage Commission
NAS	Naval Air Station
NAVFAC SW	Naval Facilities Engineering Command Southwest
Navy	Department of the Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System

NPL	National Priority List
NRHP	National Register of Historic Places
O_3	ozone
OPC	Outpatient Clinic
OSHA	Occupational Safety and Health Administration
OUs	Operable units
PAHs	polycyclic aromatic hydrocarbons
Pb	lead
PBC	Public Benefits Conveyance
PCB	polychlorinated biphenyl
pCi/L	picocuries per liter
P.L.	Public Law
PM	Particulate Matter
PM_{10}	inhalable particulates equal to or smaller than 10 microns
$PM_{2.5}$	fine particulates equal to or smaller than 2.5 microns
PMSA	Primary Metropolitan Statistical Area
Police Department	Alameda Police Department
ppm	parts per million
PRGs	Preliminary Remediation Goals
PSI	Pollutant Standard Index
RASO	Radiological Affairs Support Office
RCRA	Resource Conservation Recovery Act
ROD	Record of Decision
ROG	reactive organic gas
ROI	Region of Influence
RONA	Record of Non-Applicability
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SEIR	Supplemental Environmental Impact Report
SHMA	Seismic Hazard Mapping Act
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_2	sulfur dioxide

SO_X	oxides of sulfur
SWPPP	Storm Water Pollution Prevention Plan
TCP	Traffic Control Plan
TCRAs	time-critical removal actions
tons/year	tons per year
UBC	Uniform Building Code
U.S.C.	United States Code
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VA	Veterans Administration
VOC	volatile organic compound
WRCC	Western Regional Climate Center
°F	degrees Fahrenheit
$\mu g/m^3$	micrograms per cubic meter

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EXECUTIVE SUMMARY

INTRODUCTION

This Environmental Assessment (EA) evaluates the potential environmental impacts associated with the disposal and reuse of approximately 42 acres (15 hectares) of surplus property within the North Housing Parcel at Naval Air Station (NAS) Alameda, in the City of Alameda, California. Under the proposed action, the North Housing Parcel would be transferred from the Navy to entities that have applications that are approved by the Alameda Reuse and Redevelopment Authority (ARRA). This transfer would convey the property to be redeveloped consistent with the amended Community Reuse Plan, which was adopted by ARRA Board on March 4, 2009, and would, in part, meet future low- and moderate-income housing needs as part of any future residential development consistent with the current Neighborhood Residential District (R–4) zoning designation.

PURPOSE AND NEED

The purpose of the proposed action is the disposal and reuse of the 42-acre (15-hectare) North Housing Parcel within the City of Alameda to entities who have applications that are approved by the ARRA Board for the most economically beneficial reuse and development.

ALTERNATIVES FOR THE PROPOSED ACTION

Alternative A: Reuse Plan Amendment (Preferred Alternative)

The proposed action includes the reuse of the North Housing Parcel (approximately 42 acres [15 hectares]) at NAS Alameda. The proposed reuse of the site will adhere to the amended Community Reuse Plan, adopted by ARRA Board on March 4, 2009 as identified in Section 1.1.

Currently, the North Housing Parcel consists of approximately 282 three- and four-bedroom military family housing units, a park, and roads and infrastructure that supported the housing units. In the amended Community Reuse Plan, the North Housing Parcel is identified as residential reuse for up to 437 housing units. While

implementation of the reuse plan would result in an increase of 155 housing units on the North Housing Parcel, the overall increase in the number of housing units would remain consistent with the total number of units identified for development of the Main Street Neighborhoods in the amended Community Reuse Plan. It is anticipated that reuse and development would, in part, meet future low- and moderate-income housing needs as part of any market-rate residential development consistent with the current R-4 zoning designation.

The proposed reuse of the site would include homeless accommodation consisting of approximately 90 units of permanent, service-enriched affordable rental housing. The units would be developed and operated by the Housing Authority of the City of Alameda, the Alameda Point Collaborative, and Building Futures with Women and Children. The permanent supportive housing units would serve individuals and families in Alameda who are homeless. The development would include a community center and property management offices.

Additionally, Habitat for Humanity East Bay has submitted a Public Benefit Conveyance (PBC) proposal to renovate 32 of the existing housing units by using its self-help, or sweat-equity, model for providing affordable ownership housing. Habitat for Humanity intends to sell the homes to households with incomes at 80 percent or less of average median income. The ARRA Board approved the PBC application as part of its review and action on Notices of Interest (NOI) received as part of the screening process. Under federal statute Habitat for Humanity will work directly with HUD and final action on its PBC.

The remaining 315 units proposed would be two-unit medium density residential housing units at 15 dwelling units per acre (DU/AC), together with inclusionary housing. The Alameda Recreation and Park Department (ARPD) also has submitted a PBC proposal to utilize approximately 8 acres (3 hectares) of existing open space at the North Housing Parcel as a public park that would provide the opportunity for a variety of youth sports activities, including a possible agreement with the Miracle League for the renovation of the existing baseball field. Any future new development on the site would adhere to amended Community Reuse Plan as mentioned in Section 1.0.

Alternative B: No Action

Under the No Action Alternative, the Navy would retain ownership of the property available for conveyance at NAS Alameda. The property would be held in an inactive or caretaker status. On-site activities would be limited to security, maintenance, cleanup, and other actions associated with caretaker status. Site environmental cleanup would continue until completed. For comparative purposes throughout this document, it is assumed that a caretaker and maintenance staff of approximately two persons would be required. Under the No Action Alternative, existing interim leases would be allowed to expire and no new leases or subleases would be executed.

SUMMARY OF IMPACTS

This EA describes and evaluates the potential effects of the disposal and reuse of the North housing Parcel at NAS Alameda and the No Action Alternative. A full range of environmental issues was evaluated. The results of this evaluation are summarized below in Table ES–1.

Table ES-1
Summary of Environmental Impacts

Resource Area	Alternative A	Alternative B
Land Use	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact since this alternative would not be consistent with the applicable land use plans and policies for the North Housing Parcel. Mitigation: None proposed.
Visual Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact due to the continued caretaker status. The existing structures would become dilapidated and a visual blight to the surrounding areas. Mitigation: None proposed.
Socioeconomics	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.

Resource Area	Alternative A	Alternative B
Public Services	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact due to the anticipated increase in police, fire, and emergency services due to incidents such as break–ins, theft, fire, etc. Mitigation: None proposed.
Utilities	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Cultural Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Biological Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Geology and Soils	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Water Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Traffic and Circulation	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Air Quality	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Noise	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Hazardous Materials and Waste	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.

CHAPTER 1.0
PURPOSE AND NEED FOR THE ACTION

This Environmental Assessment (EA) has been prepared by the Department of the Navy (Navy) in accordance with the National Environmental Policy Act (NEPA) 42 U.S.C. § 4321-4370d [1994], as implemented by Council on Environmental Quality (CEQ) regulations 40 C.F.R.§ 1500-1508 [1997], the Department of the Navy Base Realignment and Closure (BRAC) Implementation Guidance dated March 23, 2007, and Defense Base Closure and Realignment Act (DBCRA) of 1990, Public Law (P.L.) 101-510 Title XXIX.

This EA supplements the 1999 Final Environmental Impact Statement (FEIS) for the Disposal and Reuse of Naval Air Station (NAS) Alameda (Navy 1999). The FEIS evaluated four reuse alternatives: Reuse Plan (Preferred Alternative), Seaport, Residential Alternative, a Reduced Density Alternative, and a No Action Alternative. The Record of Decision (ROD) was signed on February 9, 2000, approving the Reuse Plan Alternative.

Regulations promulgated by CEQ (1978) require federal agencies to prepare supplements to existing documents (40 C.F.R. §1502.9(c) (1)) implementing NEPA if:

- The agency makes substantial changes that are relevant to environmental concerns; or
- There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

The inclusion of an additional 42 acres (15 hectares) of surplus property at NAS Alameda constitutes a substantial change from the proposed action as documented in the FEIS and ROD. Thus, this EA has been prepared to supplement information in the FEIS related to the current disposal and reuse plans. Since there have been no significant changes in the environmental condition or proposed use of other remaining surplus property that was addressed in the FEIS at NAS Alameda, that land will not be discussed further in this EA.

As part of the redevelopment and reuse of the entire NAS Alameda, SunCal Companies has been selected by the City of Alameda as the master developer of Alameda Point located to the west of the North Housing Parcel. SunCal is working with the City and the Navy to finalize the terms of the property transfer and define plans for a new community at Alameda Point. A public vote is currently being discussed to develop at a density beyond the limitations of the City's charter. The date for such a vote has not yet been finalized, but further NEPA documentation would be completed after the Specific Plan for NAS Alameda has been approved by the public. The project plans and timing for the Alameda Point project are independent of the North Housing Disposal and Reuse project.

Development of a portion of the NAS Alameda site is being discussed for use by Veteran's Affairs to support a need for an outpatient clinic, support offices, and a columbarium. The project plans and timing for the VA Project are moving forward under a separate EA to address specific environmental actions.

The scope of the action to be analyzed in the EA is the additional disposal and reuse of the approximately 42 acres (15 hectares) within the North Housing Area at NAS Alameda. The reuse of the 42 acres (15 hectares) will follow the amended Community Reuse Plan, which was adopted by Alameda Reuse and Redevelopment Authority (ARRA) board on March 4, 2009. The planning guidelines are based on the planning and design principles for the Main Street Neighborhoods (City of Alameda 2008) subarea and are as follows:

1. Create a system of streets that reflects the Alameda grid and connects to both existing and planned streets.
2. Focus higher density development along a transit corridor.
3. Share uses between parks and schools, provide joint use recreation facilities to maximize usage, and reduce parking requirements.
4. Create a central neighborhood park that is fronted by residential uses.
5. Connect the North Housing Parcel to the waterfront with green streets and open space corridors.
6. Connect residential uses to open space, parks, and trails.

Used in concert with other policies and principles, the above guidelines provide guidance on the physical layout of the reuse of the North Housing Parcel. These guidelines do not include site-specific development requirements or standards. Instead, they illustrate general design strategies that allow for broad interpretation and flexibility. Additionally these guidelines follow the allowable density of Measure A. Measure A was approved by the voters in 1973, and amended the City's Charter by adding article XXVI. Measure A stated that "There shall be no multiple dwelling units built in the City of Alameda." In 1991, there was an amendment to Measure A stating "The maximum density for any residential development within the City of Alameda shall be one housing unit per 2,000 square feet of land." People commonly use the term "Measure A" to refer to the City charter amendment.

1.1 PURPOSE AND NEED

As discussed in the FEIS (Navy 1999), the purpose of and need for the proposed federal action is to dispose of surplus federal property at NAS Alameda to allow for the efficient transition from military use to civilian use.

DBCRA 1990 and subsequent Defense Authorization Acts established a process to close and realign military bases. As part of this process, the BRAC Commission recommended that the Secretary of Defense "close Naval Air Station (NAS) Alameda, California." The BRAC Commission recommendation was approved by President Clinton and accepted by the 103rd Congress in October 1993. NAS Alameda closed on April 30, 1997, and the property is in caretaker status.

The decision to close NAS Alameda was exempted by Congress from NEPA documentation requirements under DBCRA 1990, §2906. Analysis of the environmental effects of Navy disposal of the property and potential reuse are not exempted from analysis under NEPA. Requirements under DBCRA 1990 and its amendments relevant to the disposal of NAS Alameda include the following:

- Compliance with NEPA and related laws;
- Environmental restoration of the property, as soon as possible, with funds made available for such restoration;
- Consideration of the local community's reuse plan prior to disposal of the property; and

- Compliance with specific Federal property disposal laws and regulations.

The purpose of the local project analyzed in this EA is disposal and reuse of the 42-acre (15-hectare) North Housing Parcel within the City of Alameda for the most economically beneficial reuse and development. The proposed action is needed to convey 42 acres (15 hectares) of the North Housing Parcel from the Navy to the entities who have applications that are approved by the Alameda Reuse and Redevelopment Authority (ARRA) and transfer the remainder after a suitable transfer plan has been approved. This transfer would allow the property to be redeveloped consistent with the amended Community Reuse Plan identified above and would, in part, meet future low- and moderate-income housing needs as part of any future residential development consistent with the current Neighborhood Residential District (R-4) zoning designation.

1.2 LOCATION

NAS Alameda is located in Alameda County on the San Francisco Bay between the cities of San Francisco and Oakland (Figure 1-1). The proposed action area is the 42-acre (15-hectare) North Housing Parcel located in the northeastern portion of NAS Alameda (Figure 1-2).

1.3 DISPOSAL OF NAS ALAMEDA – NORTH HOUSING AREA

In 1993, Congress made the decision to close NAS Alameda. NAS Alameda was decommissioned in 1997. The BRAC legislation provided the requirements for compliance with NEPA stating, in part, that the provisions of NEPA shall apply during the process of property disposal. In accordance with BRAC legislation and NEPA, an Environmental Impact Statement (EIS) was prepared addressing the probable impacts of the reuse of NAS Alameda lands and facilities. A ROD was signed on February 9, 2000. NAS Alameda's North Housing Area was originally planned to be conveyed to the United States Coast Guard (USCG). Subsequently, the USCG withdrew its request. Since the parcel was originally intended to be conveyed to a federal entity, the property was not included in the larger NAS Alameda surplus determination and thus was not analyzed in the FEIS as an alternative use. Continued use of the parcel by the USCG was analyzed in the cumulative section of the FEIS.

A year prior to NAS Alameda's closure, in January of 1996, the City of Alameda adopted the NAS Alameda Community Reuse Plan, a "roadmap" for the conversion of

Source: ESRI 2008

Figure 1-1
Project Vicinity

the former Naval Air Station to civilian use. The Reuse Plan was prepared for the ARRA; an agency created and governed by the City Council, with extensive citizen input solicited by the Base Reuse and Advisory Group, later known as the Alameda Point Advisory Committee. The Reuse Plan established the following vision for the reuse:

- "Between now and the year 2020, the City of Alameda will integrate the Naval Air Station property with the City and will realize a substantial part of the Base's potential. Revenues will have increased and a healthy local economy will have resulted from the implementation of a coordinated, environmentally sound plan of conversion and mixed-use development. While building upon the qualities, which make Alameda a desirable place to live, efforts for improving recreational, cultural, educational, housing, and employment opportunities for the entire region will have been successful."
- "To facilitate implementation of the Reuse Plan, in 2002, the City of Alameda adopted a comprehensive set of General Plan policies to guide redevelopment of the former Naval Air Station consistent with the vision articulated by the Reuse Plan."

The ARRA completed an initial homeless and public benefit screening process for NAS Alameda in 1996 and then implemented an accommodation for the homeless that consists of 200 housing units (known as the Alameda Point Collaborative and Dignity Commons), and related economic development and community development initiatives.

In November 2007, the Navy notified the ARRA that it was going to declare an additional 42 acres (15 hectares) of NAS Alameda as surplus property. These 42 additional acres (15 hectares) are commonly referred to as the North Housing Parcel. A formal surplus declaration for the North Housing Parcel was published in November 2007 and triggered the ARRA's obligation, as the Local Redevelopment Authority (LRA), to again manage a legislatively prescribed screening process. The screening process identified possible accommodations to meet the community's unmet homeless needs while balancing those needs with other community and economic development needs. On November 16, 2007, the ARRA published the Notice of Availability for homeless providers, state and local governmental agencies, and eligible nonprofit Public Benefits Conveyance (PBC) transferees. The ARRA received five Notices of Interest from groups interested in providing self-help housing, building permanent supportive housing for homeless people, relocating a homeless shelter, and developing a public park. ARRA's *Amendment to the*

Source: Tetra Tech 2009, ESRI 2009

200 100 0 200 Feet

Scale: 1 = 106,675; 1 inch = 8,890 feet

Figure 1-2
Proposed Action

North Housing Disposal at Alameda EA

Path: P:\2007\07080411 Alameda EA\5GIS\MXD\ProjectOverview20090515.mxd, 05/15/09, sorensenj

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NAS Alameda Community Reuse Plan, dated March 2009, recommends that proposals from Habitat for Humanity East Bay, the City of Alameda Recreation and Park Department (ARPD), and the Alameda Housing Authority/Alameda Point Collaborative/ Building Futures with Women and Children be accepted.

Properties may be conveyed prior to completion of environmental remediation if the U.S. Environmental Protection Agency (USEPA) and the state agree that the property is suitable for the intended use and that the intended use will protect human health and the environment. Although not proposed at this time, to facilitate the eventual conveyance of title, the Navy may enter into a Lease in Furtherance of Conveyance (LIFOC). A LIFOC is a lease entered into after the Navy has prepared a Finding of Suitability to Lease (FOSL), complied with NEPA, and issued a final disposal decision for the property. A LIFOC provides immediate possession of the property to the entity identified in the disposal decision as the recipient of the property. Such a lease may be long term and may be for all or for a part of the property identified for conveyance to the lessee in the disposal decision. Use of a LIFOC would enable the acquiring entity to conduct reuse activities on the lease area while the Navy continues with necessary remedial activity. As parcels are remediated, they could be conveyed to the acquiring entity and could be developed for new uses consistent with the Reuse Plan. As such, under the LIFOC, reuse, remediation, and comprehensive development could occur simultaneously at the North Housing Parcel.

The Navy may convey all or some of the parcels in an unremediated condition if the property is otherwise determined to be suitable for disposal, and the statutory conditions for deferral of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) deed covenant requirements have been satisfied pursuant to 42 U.S.C. § 9620(h)(3) (U.S. Navy 1999), as amended by the National Defense Authorization Act for Fiscal Year 1997, P.L. No. 104-201, § 334, 110 Stat. 2422, 2486-88 (1996). Any such conveyance must satisfy the USEPA Administrator and the Governor of California. This type of early conveyance would allow the acquiring entity to undertake remediation action or to convey all or some of the unremediated parcels to a private developer who could undertake the remediation in lieu of the Navy and in accordance with federal and state requirements. Early conveyance might enable reuse activities to begin sooner than would occur if title were not conveyed until remediation is complete. To ensure that those reuse activities are undertaken safely, CERCLA Section 120(h)(3)(C)(ii), 42 U.S.C. § 9620(h)(3)(C)(ii) (U.S. Navy 1999), requires response action assurances, including necessary use restrictions that will ensure public health

and the environment are protected after an early transfer but before the final remedy is implemented. As under a LIFOC, reuse, remediation, and comprehensive development could occur at the same time. No disposal can occur until the NEPA process is complete.

1.3.1 Ongoing North Housing Parcel Environmental Remediation

Prior to the conveyance of any portion of the North Housing Parcel, the Navy will complete its environmental cleanup obligations in compliance with CERCLA. However the Navy may choose to convey all or some of the parcels in an unremediated condition if the property is otherwise determined to be suitable for disposal, and the statutory conditions for deferral of the CERCLA deed covenant requirements have been satisfied pursuant to 42 U.S.C. § 9620(h)(3) (U.S. Navy 1999), as amended by the National Defense Authorization Act for Fiscal Year 1997, P.L. No. 104-201, § 334, 110 Stat. 2422, 2486-88 (1996). Any such conveyance must satisfy the USEPA Administrator and the Governor of California. The following is a summary of the proposed cleanup efforts.

Groundwater

A benzene and naphthalene groundwater contamination plume is present beneath a portion of the property (Figure 3.13-1). To address the contamination associated with the plume, the Navy completed a work plan in September 2008 and a groundwater remediation system was constructed in the Kollmann Circle area. The above ground groundwater treatment system within the North Housing Parcel is 3.9 acres (1.6 hectares), and requires fencing and security. This area will have land use restrictions prohibiting use of this area and interference with cleanup operations until remediation is complete. The remediation for lower-level contamination in the rest of the plume is monitored natural attenuation. Vapor intrusion into indoor air has been shown not to be a problem at the North Housing Parcel. The Navy's groundwater cleanup efforts are compatible with residential use of the property outside Kollmann Circle and should be minimally disruptive.

1.4 DOCUMENT ORGANIZATION

This EA was prepared using a systematic, interdisciplinary assessment process, designed to provide decision makers with an organized analysis of the environmental consequences of implementing the proposed action. The project purpose and need for

the action are described in this chapter (Chapter 1.0). The public involvement process and scope of analysis in this EA are discussed in Section 1.5 and Section 1.6, respectively. Subsequent sections of this document describe the alternative actions considered (Chapter 2.0), a characterization of the affected environment (Chapter 3.0), and an assessment of the environmental consequences of the alternatives (Chapter 4.0). Cumulative impacts are addressed in Chapter 5.0. A list of individuals and agencies consulted is provided in Chapter 6.0. A list of individuals participating in the preparation of this EA is provided in Chapter 7.0. Chapter 8.0 contains the document references, Chapter 9.0 is the distribution list, and the responses to comments are in Chapter 10.0.

1.5 PUBLIC INVOLVEMENT PROCESS

1.5.1 Navy

Opportunities to participate in the NEPA process will be offered to the public as described below:

- Public comment period on the Draft EA
- Coordination and consultation with government agencies to ensure that all applicable laws, rules, regulations, and policies have been identified and that the proposed action has been duly evaluated in light of these considerations.
- Final EA available to the public
- Publication of the Finding of No Significant Impact (FONSI)

1.5.2 ARRA

To provide community outreach and opportunities for participation in the amendment process, the ARRA Board held a public workshop in December 2007. The workshop provided an opportunity for the community to understand any recommended accommodation for homeless providers, as well as the public benefit conveyances. Also, to consider and prioritize other reuse opportunities for the land given various constraints such as the Navy's environmental clean-up schedule, access, and adjacent land uses. A public hearing was held on March 4, 2009, to approve the amended Community Reuse Plan.

Additionally, the City of Alameda has a web site devoted to the reuse and redevelopment of NAS Alameda. The web site provides historical data as well up to date project progress and identifies future events or milestones. Comments from agencies and the public have been solicited to help identify the potential community and environmental issues that may be associated with the disposal and reuse of the North Housing Parcel.

1.5.3 Public Review

The BRAC Program Management Office sent public notices to those interested parties and adjacent property owners through a direct mailing on July 8, 2009. These notices were sent in an effort to help explain both the NEPA process and North Housing project. In addition, a Notice of Availability (NOA) for the Draft EA was published in both the Oakland Tribune and Alameda Journal from 10 July 2009 to 12 July 2009, as well as on the BRAC PMO website. The public comment period ended 14 August 14 2009. Through public comment, the Navy received both calls and written inquiries about the project. These inquiries are addressed and explained in this document (Chapter 10.0).

1.6 SCOPE OF ANALYSIS

The primary issues of concern are the potential impacts the proposed action could have on environmental resources. The applicable laws and regulations identified in Table 1-1 will be considered during the scope of this analysis and the issues addressed.

1.6.1 Decisions to Be Made

This EA will be forwarded through the Navy chain-of-command where it will be reviewed and a decision will be made as to whether a Finding of No Significant Impact (FONSI) is appropriate or preparation of an EIS is required. This decision is based on the facts and data presented in the EA and will be used to determine whether all potential impacts are either insignificant or can be reduced to insignificant levels through the implementation of mitigation measures as described in this EA. If this is the case, then the preparation and signing of a FONSI is appropriate. If this determination cannot be made, then the Navy must prepare an EIS. These decisions will assist the Navy in deciding whether to implement the proposed action.

Table 1-1
Applicable Laws and Regulations Considered

Archaeological Resources Protection Act of 1979 (1994)	16 U.S.C. §§ 470aa-470mm
California Hazardous Waste Management	22 C.C.R. Div. 4.5
Clean Air Act (1994 and Amendments of 1990)	42 U.S.C. §§ 7401-7671q and Pub. L. No. 101-549, 104 Stat. 2399
Council on Environmental Quality Regulations	40 C.F.R. Parts 1500-1508
Clean Water Act (1972, as amended)	33 U.S.C. §§ 1251-1387
Coastal Zone Management Act	16 U.S.C. §§ 1451-1466
Comprehensive Environmental Resources, Compensation, and Liability Act (1980)	42 U.S.C. §§ 9601-9675
Defense Base Closure and Realignment Act (DBCRA) of 1990, Public Law.	P.L. No. 101-510 Title XXIX
Endangered Species Act (1973, as amended)	16 U.S.C. §§ 1531-1544
Executive Order (EO) 12372 (Intergovernmental Review of Federal Programs) (1977, 1983, and 1984)	47 Federal Register 30959
EO 12898 (Environmental Justice) (1994)	59 Federal Register 7629
EO 13045 (Environmental Justice for Children) (1997)	62 Federal Register 19885
EO 13123 (Greening the Government through Efficient Energy Management) (1999)	64 Federal Register 30851
EO 13148 (Greening the Government through Leadership on Environmental Management) (2000)	65 Federal Register 24595
EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) and Migratory Bird Treaty Act	66 Federal Register 3853 and 16 U.S.C. §§ 703-712
National Historic Preservation Act of 1966, as amended (1994)	16 U.S.C. §§ 470-470x-6
National Register of Historic Places (1977)	36 C.F.R. Part 60
Pollution Prevention Act of 1990	42 U.S.C. §§ 13101-13109
Resource Conservation and Recovery Act (1976)	42 U.S.C. §§ 6901-6992k

The proposed action may also require the following decisions and approvals from federal and state agencies.

1.6.2 National Historic Preservation Act, Section 106

The National Historic Preservation Act (NHPA) of 1966, as amended, requires federal agencies to consider the preservation of historic and prehistoric resources. Section 106 of the NHPA mandates that all federal agencies take into account the effects of their undertakings (actions) on historic/prehistoric resources and afford the Advisory Council on Historic Preservation a reasonable opportunity to review and comment on the action prior to project approval for any action that may affect properties listed, or eligible for listing, in the National Register of Historic Places (NRHP). Under Section 106 of the NHPA, a State Historic Preservation Officer (SHPO) was established in each state and

designated the responsibility of reviewing and commenting on any action affecting properties listed, or eligible for listing, in the NRHP.

1.6.3 Clean Air Act General Conformity Rule

USEPA published "Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule," in the 30 November 1993 Federal Register (40 C.F.R. Parts 6, 51, and 93). The Marine Corps published "Environmental Compliance and Protection Manual" in MCO P5090.2A (10 July 1998). Chapters 6 and 12 of MCO P5090.2A provide implementing guidance to document General Conformity Determination requirements under Section 176(c) of the CAA. Federal regulations state that no department, agency, or instrumentality of the federal government shall engage in, support in any way or provide financial assistance for, license to permit, or approve any activity that does not conform to an applicable implementation plan. It is the responsibility of the federal agency to determine whether a federal action conforms to the applicable implementation plan, before the action is taken (40 C.F.R. Part 51.850[a]). Federal actions may be exempt from conformity determinations if they do not exceed designated *de minimis* levels for criteria pollutants (40 C.F.R. Part 51.853[b]).

A Record of Non-Applicability (RONA) has been prepared and is located in Appendix C. The Marine Corps must determine if the General Conformity Rule applies to the proposed action before the finalization of this EA, in accordance with requirements and procedures described in the *Clean Air Act General Conformity Guidance* (U.S. Navy 2007).

1.6.4 Endangered Species Act, Section 7 Consultation

Consultation with the U.S. Fish and Wildlife Service (USFWS) is required under the Federal Endangered Species Act if the proposed action may affect federally threatened or endangered plant and animal species or designated critical habitat. No designated critical habitat occurs within the project site.

The Navy has determined that redevelopment actions within the North Housing Parcel would not affect federally listed species. In a letter dated June 8, 2009, the Navy requested initiation of formal Section 7 consultation and submitted a programmatic biological assessment (BA) pursuant to the Federal Endangered Species Act for the

proposed Department of Veterans Affairs (VA) project-specific action and the proposed Navy programmatic action in order to facilitate the disposal and redevelopment of the former NAS Alameda. The BA provided a description of the actions being taken and a description of the specific areas that may be affected. Reuse within the programmatic action area is described by the Alameda Point Specific Plan (March 2009). The BA focuses on the California least tern, California brown pelican, and western snowy plover. Land-based activities, such as housing development, would primarily have an impact on the California least tern. The BA also addresses various marine and anadromous species (salmonids and green sturgeon). The BA did not include the North Housing Parcel because it is part of a reuse planning process that is separate from the efforts conducted under the Alameda Point Specific Plan.

Previous consultations and current analysis indicate that the North Housing Parcel is far-removed from the California least tern nesting colony at NAS Alameda. For example, in the 1999 Biological Opinion (BO), predator management was the primary issue addressed by the USFWS activities. In that BO, predator management is required in areas west of Main Street. Proposed reuse activities east of Main Street would not have an effect on the California least tern or other listed species.

The ongoing Section 7 consultations being conducted for reuse activities for the rest of the surplus property provide a means for the conservation of listed species for reuse activities related to land-based construction west of Main Street and in-water construction/dredging.

1.6.5 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 is the primary legislation in the United States established to conserve migratory birds. It implements the United States' commitment to four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The MBTA prohibits the taking, killing, or possessing of migratory birds unless permitted by regulation. The species of birds protected by the MBTA appear in 50 C.F.R. Part 10.13. The National Defense Authorization Act and associated exemptions to the MBTA do not apply to the North Housing disposal and reuse project.

1.6.6 Coastal Zone Management Act

The federal Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. §§ 1451-1465), as amended, grants coastal states with the authority to evaluate projects that could affect the coastline. The Bay Conservation and Development Commission (BCDC), created by the McAteer-Petris Act (Cal. Gov't. Code § 66600 et seq.), functions as the state coastal management agency for the San Francisco Bay, having jurisdiction over all areas subject to tidal action up to the mean high tide line and including all sloughs, tidelands, submerged lands, and marshlands lying between the mean high tide and 5 feet (1.5 m) above mean sea level for the nine Bay Area counties with Bay frontage (BCDC 1969). Its jurisdiction in shoreline areas includes a band measured 100 feet (30.5 m) landward of and parallel to the shoreline of the Bay. The boundary of the North Housing subject property is located 120' from the shoreline and is therefore outside of the 100' shoreline band jurisdiction of BCDC. In addition, federal property is considered to be outside the state coastal zone, as defined under the CZMA. Under the provisions of 15 C.F.R Part 930, Federal Consistency with Approved Coastal Management Programs, the Navy has determined that neither a consistency determination, nor a negative determination is required for the proposed disposal action.

CHAPTER 2.0
ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1 DEVELOPMENT OF ALTERNATIVES

Soon after the closure of NAS Alameda was approved by President Clinton and accepted by the 103rd Congress in October 1993, the ARRA was recognized by the Department of Defense as the LRA for the purpose of implementing the DBCRA 1990, as amended. In its LRA capacity, the ARRA conducted a comprehensive reuse planning process. Suggestions and proposals for the future use of NAS Alameda/Fleet and Industrial Supply Center (FISC) Alameda properties were directed to the ARRA for consideration during the public reuse planning process. Alternatives for further consideration were generated from this process. Additional reuse recommendations for the NAS Alameda/FISC Alameda site were provided during the public scoping process. These alternatives were identified in the 1999 disposal and reuse FEIS.

As stated in Section 1.3, when the 42 acres (15 hectares) of the North Housing Parcel were formally declared surplus this triggered the ARRA's obligation, as the LRA, to again manage a legislatively prescribed screening process. The screening process identified possible accommodations to meet the community's unmet homeless needs while balancing those needs with other community and economic development needs.

2.1.1 Disposal Process

The disposal action would convey title from the Navy to non-federal entities. Prior to property conveyance or transfer, the Navy will remediate hazardous substances to levels that protect human health and the environment for the permissible uses within the parcel. However, the Navy may choose to convey all or some of the parcels in an unremediated condition if the property is otherwise determined to be suitable for disposal, and the statutory conditions for deferral of the CERCLA deed covenant requirements have been satisfied pursuant to 42 U.S.C. § 9620(h)(3) (U.S. Navy 1999), as amended by the National Defense Authorization Act for Fiscal Year 1997, P.L. No. 104-201, § 334, 110 Stat. 2422, 2486-88 (1996). Any such conveyance must satisfy the USEPA Administrator and the Governor of California.

The conveyance of property under the disposal action may be encumbered by covenants and land use restrictions based on the Navy's remediation of the property to levels consistent with use under the amended Community Reuse Plan. Encumbrances could include requirements for cleanup to levels that ensure that human health and the environment are protected if the property is disposed for use that varies from that proposed under the amended Community Reuse Plan.

2.2 DESCRIPTION OF ALTERNATIVES

2.2.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

The proposed action includes the reuse of the North Housing Parcel (approximately 42 acres [15 hectares]) at NAS Alameda. The proposed reuse of the site will adhere to the amended Community Reuse Plan, adopted by the City of Alameda March 2009 as identified in Section 1.1.

Currently, the North Housing Parcel consists of approximately 282 three- and four-bedroom military family housing units, a park, and roads and infrastructure that supported the housing units. As indentified in the amended Community Reuse Plan, the North Housing Parcel is identified as residential reuse for up to 437 housing units, of which 25 percent would be affordable. While implementation of the amended Community Reuse Plan would result in an increase of 155 housing units on the North Housing Parcel, the overall increase in the number of housing units would remain consistent with the total number of units identified for development of the Main Street Neighborhoods in the amended Community Reuse Plan. It is anticipated that reuse and development would, in part, meet future low- and moderate-income housing needs as part of any future residential development consistent with the current R-4 zoning designation.

The proposed reuse of the site would include homeless accommodation consisting of approximately 90 units of permanent, service-enriched affordable rental housing. The units would be developed and operated by the Housing Authority of the City of Alameda, the Alameda Point Collaborative, and Building Futures with Women and Children. The permanent supportive housing units would serve individuals and families in Alameda who are homeless. The development would include a community center and property management offices.

Additionally, the Habitat for Humanity East Bay has submitted a PBC proposal to renovate 32 of the existing housing units by using its self-help, or sweat-equity, model for providing affordable ownership housing. Habitat for Humanity intends to sell the homes to households with incomes at 80 percent or less of average median income. At the ARRA's direction, Developmental Services Department staff is providing ongoing support for a development proposal from Habitat for Humanity East Bay to renovate 20 to 32 townhomes or build 20 to 30 new duet-style homes, or some combination thereof, using the self-help model.

The remaining 315 units proposed would be two-unit medium-density residential housing units at 15 dwelling units per acre (DU/AC) with the likelihood of additional low-income housing mixed in. ARPD also has submitted a PBC proposal to utilize approximately 8 acres (3 hectares) of existing open space at the North Housing Parcel as a public park that would provide the opportunity for a variety of youth sports activities, including a possible agreement with the Miracle League for the renovation of the existing baseball field. Any future new development on the site would adhere to the amended Community Reuse Plan as mentioned in Section 1.0.

2.2.2 Alternative B: No Action

Under the No Action Alternative, the Navy would retain ownership of the property available for conveyance at NAS Alameda. The property would be held in an inactive or caretaker status. On-site activities would be limited to security, maintenance, cleanup, and other actions associated with caretaker status. Site environmental cleanup would continue until completed. For comparative purposes throughout this document, it is assumed that a caretaker and maintenance staff of approximately two persons would be required. Under the No Action Alternative, existing interim leases would be allowed to expire and no new leases or subleases would be executed.

2.3 ALTERNATIVES ELIMINATED FROM DETAILED CONSIDERATION

2.3.1 U.S. Coast Guard (USCG)

NAS Alameda's North Housing Parcel was originally planned to be conveyed to the USCG via a federal-to-federal transfer. The USCG intended to use this property for housing. Subsequently, the USCG withdrew its request and the 42 acres (15 hectares)

remains in Navy ownership. Because the USCG does not intend to utilize the property, this alternative is eliminated from detailed consideration.

2.3.2 Department of Veterans Affairs (VA)

The site was considered as a potential location for VA facilities to serve San Francisco Bay Area (Bay Area) veterans. Facilities proposed in the Alameda area include a columbaria cemetery, outpatient clinic (OPC), public/private venture community hospital and VA support/medical office buildings. It is the VA's objective to quickly and effectively help veterans by placing all required VA facilities at one site (i.e., One VA). The "One VA" concept would require about 113 acres to meet all facility needs. The 42-acre (15-hectare) North Housing Area cannot accommodate the One VA concept.

At this time the VA is pursuing other property on NAS Alameda. A public meeting was held to inform the public of the proposed VA property transfer on 18 December 2008.

2.4 COMPARISON OF ALTERNATIVES

Table 2-1 includes a summary of impacts from Alternatives A and B.

Table 2-1
Summary of Environmental Impacts

Resource Area	Alternative A	Alternative B
Land Use	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact since this alternative would not be consistent with the applicable land use plans and policies for the North Housing Parcel. Mitigation: None proposed.
Visual Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact due to the continued caretaker status. The existing structures would become dilapidated and a visual blight to the surrounding areas. Mitigation: None proposed.
Socioeconomics	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.

Resource Area	Alternative A	Alternative B
Public Services	Impact: No significant impact. Mitigation: None proposed.	Impact: Potentially significant impact due to the anticipated increase in police, fire, and emergency services due to incidents such as break–ins, theft, fire, etc. Mitigation: None proposed.
Utilities	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Cultural Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Biological Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Geology and Soils	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Water Resources	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Traffic and Circulation	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Air Quality	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Noise	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.
Hazardous Materials and Waste	Impact: No significant impact. Mitigation: None proposed.	Impact: No significant impact. Mitigation: None proposed.

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CHAPTER 3.0
AFFECTED ENVIRONMENT

3.1 LAND USE

This section describes the land use patterns on and surrounding the 42 acre (15 hectares) North Housing Parcel surplus property on NAS Alameda proposed for disposal and reuse. Also described in this section are relevant land use plans and policies.

3.1.1 On-site Land Use

The North Housing Parcel is developed with former military housing units and the associated infrastructure for those structures. The existing housing units have been vacated and are not currently occupied by military or other civilian residents. Within the North Housing Parcel, there are 51 residential structures, which comprise a total of 282 units. Of the 282 residential units, there are 146 3-bedroom units and 136 4-bedroom units (City of Alameda 2006a).

Throughout the North Housing Parcel are paved roads and parking lots that serve the housing units. Other infrastructure necessary to support housing (sewer, water, telecommunications, etc.) are also located within the parcel. A sewer lift station is located in the northeast corner of the North Housing Parcel between Mosley Avenue and the basketball court. This sewer lift station is a critical component of the sewer system serving the North Housing Parcel and surrounding development.

Along the entire northern boundary of the North Housing Parcel is an undeveloped area that was previously used as a park. This open grassy park area is generally unimproved with remnants of a baseball diamond and boundary outlines for soccer fields remaining. The park area also includes an asphalt basketball court and paved parking lot. A paved walking trail is located around the perimeter of the park area.

3.1.2 Surrounding Land Use

To the north of the North Housing Parcel is the Port of Oakland with the Oakland Inner Harbor immediately north of the site. Port of Oakland harbor operations are described in detail in the FEIS.

To the east of the project site is developed land that was formerly part of FISC Alameda Annex and Facility and includes multiple warehouse structures and an administrative-type building, some of which are currently leased and occupied by local businesses. This area is proposed for redevelopment as part of the Alameda Landing project. Planned redevelopment would include a mix of residential, commercial, office, and research and development (City of Alameda 2006b).

The College of Alameda and the Alameda Science Technology Institute campus and facilities are located to the southeast of the project site. Immediately south of the site is a currently USCG owned and occupied housing area known as Marina Village, which was built in 1991. South of Marina Village is the recently constructed Bayport master plan residential development, which includes a school and park facilities.

Located to the west of the North Housing Parcel is the USCG housing office and parking lot. A personal goods storage facility is located to the west of the USCG office. Farther west are industrial marine facilities associated with the harbor. To the west of Main Street is the area known as Alameda Point, which is currently undergoing redevelopment as directed by the ARRA and the City of Alameda amended Community Reuse Plan. The redevelopment plan for Alameda Point includes a variety of residential development, commercial and retail mixed uses, historic preservation areas, public open space, and parks, including the Alameda Sports Complex (City of Alameda 2008b).

3.1.3 Regulatory Considerations

The regulatory agencies and their role in the project area are described in detail in the FEIS, such as the City of Alameda General Plan and Zoning Ordinance, State Lands Commission, and Association of Bay Area Governments. However, there have been several important land use planning actions that have occurred since preparation of the FEIS. These items are discussed below.

As outlined in the amended Community Reuse Plan, land use regulatory authority rests with the City of Alameda and changes or amendments would be required to the City of Alameda General Plan, Zoning Ordinance and other plans and regulations to enact the plans and policies documented in the reuse plan (City of Alameda 1996). To facilitate implementation of the 1996 Community Reuse Plan for NAS Alameda the City adopted a comprehensive set of General Plan policies in 2002 to guide redevelopment in a

manner consistent with the Reuse Plan (City of Alameda 2008b). In 2003, the City prepared a General Plan Amendment that rezoned much of the vicinity. In addition, in 2007, the City rezoned the park piece within the 42-acre (15-hectare) North Housing Parcel as well as the adjacent Alameda Landing property.

The amended Community Reuse Plan designated the North Housing Parcel for residential and associated use and that designation has not changed. In the amended Community Reuse Plan, the North Housing Parcel is located within the Main Street Neighborhoods planning district, which is designed to continue the existing residential uses of the area. The predominant use is designated as housing and related uses with a major emphasis on residential use. Residential, parks and recreation, school, and local serving office, civic, and retail uses are allowed within the district (City of Alameda 1996).

On March 4, 2009, ARRA Board adopted the amended Community Reuse Plan (outlined in Section 1.1). The planning guidelines are based on the planning and design principles for the Main Street Neighborhoods as defined in the amended Community Reuse Plan. The amended Community Reuse Plan aims to connect the street system to both existing and planned streets, focus higher density development along a transit corridor, provide joint use recreation facilities between parks and schools, create a central neighborhood park fronted by residential use, connect the area to the waterfront, and connect residential uses to open space, parks, and trails.

All of the City rezoning and General Plan amendments actions were consistent with the amended Community Reuse Plan.

The November 2007 surplus declaration of the North Housing Parcel triggered the federally prescribed screening process to be conducted by the ARRA, as the LRA. The screening process requires the ARRA to balance the needs of the homeless and requests for PBCs against other community needs and interests such as economic development and provision of a range of housing for all segments of the population. As required, the ARRA published a NOA of Surplus Property on November 16, 2007. On October 1, 2008, the ARRA recommended that staff continue to pursue two PBCs and one homeless housing accommodation for the North Housing Parcel.

3.2 VISUAL RESOURCES

This section describes the existing visual character of the site and the surrounding visual environment including views towards the site and views from the site.

3.2.1 Landscape Character and Region of Influence

Landscape Character of the Region

The general Region of Influence (ROI) for the North Housing Parcel would be similar to that identified in the FEIS as the regional characteristics of the area remain the same. However, many regional areas that have views of a portion of NAS Alameda do not have views of the North Housing Parcel. The North Housing Parcel is located along the northern shore of the middle portion of the island of Alameda on the eastern shore of San Francisco Bay. In a regional context, the area is bordered by the Oakland Inner Harbor and the Port of Oakland to the north, San Francisco Bay to the west and south, and the City of Alameda to the east. The topography of the area is generally flat and does not allow for long-distance views, thus minimizing the ROI and views of the property beyond the immediate surrounding area.

Landscape Character of the North Housing Parcel

The 42-acre (15 hectares) North Housing Parcel is mainly developed with residential uses and the necessary supporting infrastructure. The residential development includes 51 buildings, comprised of 39 six-plexes and 12 four-plexes for a total of 282 typical military family housing units. The two-story wood-framed housing structures are laid out along curvilinear paved roadways and look nearly identical with alternating paint schemes of tan and gray, see Figure 3.2-1. Landscaping is minimal, consisting mainly of grass, small shrubs, and trees. Also located on the property is 8 acres of open space park area that is generally undeveloped and consists of mostly grassy turf areas. The property is generally flat with no significant topographic features. The level characteristic of the property limits the views to and from the project site to surrounding areas.

View of Existing Residential Units and Roadway

View of Existing Residential Units

Figure 3.2-1
Existing Site Photographs

Landscape Character of Adjacent Off-site Areas

To the north of the North Housing Parcel is the Oakland Inland Harbor. Intervening between the project property and the harbor are large warehouse-type structures associated with marine and harbor operations. To the northwest of the property is the Alameda Gateway that consists of the Alameda Ferry terminal and parking lot, warehouses, commercial self-storage facility, offices, and ship repair facilities, including some tall cranes, which give an overall industrial look to the waterfront area.

East of the project site is part of the former FISC Alameda property. Some structures in the area have been demolished and the area graded clean. Other large warehouse structures and an office-type building still exist on the site and dominate the visual character of this area. The large warehouses block views to and from the North Housing Parcel.

Southeast of the project site is the College of Alameda. The campus includes educational and administrative buildings as well as parking lots and landscaping. A large portion of the campus is dedicated to sports facilities such as a baseball diamond, track and field facilities, and tennis courts.

Immediately to the south of the North Housing Parcel are occupied older multi-family residential units known as Marina Village. This housing area includes landscaping consisting of grass, shrubs, and mature trees. This area's structures are associated with a school facility including education buildings and outside play areas, which are vacant. Further south is the recently redeveloped Bayport area, which consists mainly of single-family residential homes with some multi-family units. The area also includes a new school facility and a community park. This area has a very structured and organized visual character due to the newly planned and constructed development.

West of the North Housing Parcel is the USCG housing office and a paved parking lot. A personal goods storage facility is located just west of the USCG office. Continuing east are industrial uses including warehouse facilities, a small power generation facility, and other similar uses associated with marine activities such as boat repair. The visual character of this area is dominated by these old industrial facilities and uses. West of Main Street is an older residential neighborhood, developed with mostly single-family units.

3.2.2 Sensitive Views of the North Housing Parcel

The North Housing Parcel is located within the former NAS Alameda and is generally surrounded by previous base facilities and uses, thus limiting the number of sensitive viewers of the project site. There are sensitive residential viewers with foreground views located south of the property in the occupied residential area as well as continuing south to the recently redeveloped Bayport area. Immediately to the east and west are industrialized areas that are not considered to be sensitive viewers. Viewers traveling by boat along the Oakland Inland Harbor have intermittent foreground and middle ground views of the North Housing Parcel; specifically, views of the site from the water are available near the northwest corner of the property. However, the majority of the site is blocked from view by the large warehouses between the water and the property. Views from the water include the open grassy area along the northern boundary of the property as well as views of the existing housing structures and landscaping. Because the area is generally topographically flat, the presence of large industrial buildings around the property limits views of the North Housing Parcel from more distant locations.

3.2.3 Regulatory Considerations

Regulatory considerations regarding aesthetics and visual resources remain the same as identified in the FEIS. These policies include NEPA's requirement that all practicable measures to be taken to "… assure for all Americans … aesthetically pleasing surroundings" (42 U.S.C. § 4331(b)).

The City of Alameda General Plan has multiple elements that address visual resources. Specifically important to the North Housing Parcel are the goals to maintain and maximize views of waterfront and shoreline areas.

In addition, the Urban Design and Neighborhood Character element of the amended Community Reuse Plan includes aesthetic objectives to expand visual access to the water; create new venues with sight lines to water views; provide, frame, and accent views of the surrounding Bay environment; and emphasize public views throughout development in the former NAS site.

3.3 SOCIOECONOMICS

Under NEPA, “economic” and “social” effects are specific environmental consequences to be examined (40 C.F.R. § 1508.8(b)). The term socioeconomics typically describes the basic attributes and resources associated with the human environment with particular emphasis on population, housing, employment, and personal income. Indicators of these conditions for the greater project area are discussed in turn in this section. Substantial changes in the fundamental indicators of these community or regional attributes and resources may in turn influence a number of other social or economic variables such as the provision of services and utilities, and the cost and availability of housing, among others. Further, other types of environmental impacts may also be experienced as socioeconomic impacts, such as where positive or negative project-related attributes could influence various aspects of community character.

Due to the relatively small scale of the proposed action, socioeconomic impacts would likely be felt most intensely at the local level. Thus, the City of Alameda would be the main area affected, with Alameda and Contra Costa counties, which together make up the Oakland Primary Metropolitan Statistical Area (PMSA), included in the overall ROI as points of comparison and reference for the analysis of socioeconomic impacts. This general socioeconomic ROI was selected because it is expected that most future workers at the project site would reside within this area. For schools, the ROI is the Alameda Unified School District (AUSD) since students associated with housing units proposed on the NAS Alameda site would be enrolled in the local school district whose boundaries coincide with those of the City of Alameda. The ROI for recreation is considered the City of Alameda as well because of the proximity of the City to the project site, although it is recognized that other Bay Area residents would likely take advantage of the regional recreation facilities proposed under the proposed action.

The baseline year for the socioeconomics is 2007, the most recent available data from the U.S. Census Bureau 2005-2007 American Community Survey. Historical socioeconomic information and future projections are 2006 data derived from the Association of Bay Area Governments (ABAG).

3.3.1 Population

According to the FEIS, the Oakland PMSA has grown a yearly average rate of 1.4 percent since 1980. The Oakland PMSA grew at a slightly faster rate between 1980 and

1995 than did the Bay Area as a whole, largely because of new development in the suburban eastern half of the PMSA. By 1990, the PMSA was home to more than two million residents. Growth continued through the late 1990s and in the 2000s reaching nearly 2.5 million residents by 2007. Growth of the PMSA is expected to slow to a projected annual rate of 1.2 percent from 2007 to 2030.

Alameda County itself was among the fastest-growing areas in the Bay Region in the 1980s, trailing only the boom areas of Solano, Sonoma, and Contra Costa counties. More recently, however, slower growth was seen in the 1990s and up to 2007. Contemporary growth has largely been fueled by new development in the eastern half of the county, rather than in the established population centers along the shore of the bay. Judging from historic and projected growth data, Alameda County has experienced slow, steady growth from 1980 to 2007 and this slow rate of growth is expected through 2030 (1.2 percent).

ABAG expects very little change in the total population between 2007 and 2030 in the City of Alameda, as shown in Table 3.3-1. The reasons for this are the City is nearly built-out and loss in population from the closure of NAS Alameda/FISC Alameda is generally offset by the growth in the household population. In fact, from 1990 to 2000, the population of the City actually dropped, before rebounding in 2007. Yearly anticipated growth in the City between 2007 and 2030 is approximately 0.8 percent, which is slightly higher than historic yearly averages from 1980 to 2007.

Table 3.3-1
City of Alameda Population

Area	1980	1990	2000	2007	2020	2030	Annual Average Growth	
							Historic (1980-2007)	Projected (2007-2030)
Oakland PMSA*	1,761,710	2,080,434	2,392,557	2,449,131	2,857,700	3,114,100	1.4%	1.2%
Alameda County	1,105,379	1,276,702	1,443,741	1,454,159	1,700,700	1,858,800	1.2%	1.2%
City of Alameda	63,852	73,979	72,259	74,142	82,200	88,200	0.6%	0.8%

*Alameda and Contra Costa Counties
Source: ABAG 2006; U.S. Census Bureau 2007

3.3.2 Household Characteristics

As discussed in the FEIS, the Oakland PMSA, like most of the country, experienced an increase in birth rates in the 1980s and early 1990s as the post-World War II "Baby Boomer" generation had children of its own. The growth in the number of households from 1980 to 2007 has been approximately 32.0 percent, with a growth rate of 5.8 percent in the average number of persons per household. Projections from 2007 to 2030 estimate that the total number of households will grow approximately 29.1 percent over this time span, although the average number of persons per household is expected to decrease slightly (-1.6 percent) from 2.74 in 2007 to 2.70 in 2030 (Table 3.3-2).

Table 3.3-2
Housing Characteristics

Location	1980	1990	2000	2007	2020	2030	Percent Change 1980-2007	Percent Change 2007-2030
Persons per Household								
Oakland PMSA*	2.59	2.61	1.09	2.74	0.52	0.00	5.8%	-100.0%
Alameda County	2.53	2.59	2.71	2.73	2.71	2.72	7.9%	-0.4%
City of Alameda	2.28	2.36	2.35	2.49	2.38	2.39	9.2%	-4.0%
Number of Households								
Oakland PMSA*	667627	779806	867495	881418	1068510	1138130	32.0%	29.1%
Alameda County	426093	479518	523366	519056	643030	671700	21.8%	29.4%
City of Alameda	26517	29078	30226	29287	34040	36400	10.4%	24.3%

*Alameda and Contra Costa Counties
Source: ABAG 2006; U.S. Census Bureau 2007

The City of Alameda reflects the regional trends described above, although growth from 1980 to 2007 has been slower than both Alameda County and the Oakland PMSA. Conversely, the percent change in the average number of people per household was larger between 1980 and 2007. Growth in the number of households from 2007 to 2030 (24.3 percent) is anticipated to be slower than the Oakland PMSA as a whole (29.1 percent), and the average number of persons per household is expected to drop 4.0 percent from 2.49 to 2.39 between 2007 and 2030.

3.3.3 Housing

As discussed in the FEIS, vacancy rates in the PMSA and in Alameda County are typically lower than in the whole of the Bay Area. According the U.S. Census Bureau (2007), the City of Alameda has a vacancy rate of 7.9 percent, which is much higher than the vacancy rates in the 1990s and mid-1980s, which typically ranged from 3.8 to 4.9 percent. As discussed in the FEIS, prices in the City of Alameda typically tend to be above average for the county due to the relatively high quality of the housing stock.

Table 3.3-3 shows the distribution of the type of housing found in the PMSA, Alameda County, and the City of Alameda. As is characteristic of the more urban parts of the region, the city of Alameda has a larger proportion of multi-family dwellings than does the PMSA overall.

Table 3.3-3
Housing Units By Type

	San Francisco Bay Area[a]		Oakland PMSA[b]		Alameda County		City of Alameda	
Type of Housing	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
One Unit Detached	1,459,542	54.3%	562,874	60.5%	304,732	54.4%	13,513	42.5%
One Unit Attached	246,501	9.2%	71,472	7.6%	40,750	7.3%	3,520	11.1%
Two to Four Units	264,550	9.8%	91,088	9.2%	63,719	11.4%	5,867	18.4%
Five or More Units	655,998	24.4%	209,023	21.2%	143,629	25.6%	8,679	27.4%
Mobile Home	59,557	2.2%	14,230	1.6%	7,481	1.3%	222	0.7%
Total Units	**2,686,148**	**100.0%**	**948,687**	**100.1%**	**560,311**	**100.0%**	**31,801**	**100.1%**

[a] Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma Counties
[b] Alameda and Contra Costa Counties
Source: U.S. Census Bureau (2007)

The housing units to be potentially disposed/remodeled under Alternative A include 282 three- and four-bedroom military housing units. These units were identified in 1995 as being “in fair to good condition” by the FEIS.

3.3.4 Schools

AUSD currently has the capacity for 12,384 students in its ten elementary schools, three middle schools, and three high schools. As displayed in Table 3.3-4, enrollment in the 2008 school year is 9,963, for an overall utilization rate of 80.5 percent. Since 1995, the overcrowding cited in the FEIS has been somewhat alleviated by the addition of extra

classroom trailers, a new elementary school (Ruby Bridges), the reconfiguration of day care facilities, and a slow growth in population within the City of Alameda since 1990 (cited above). At this time, Edison Elementary School is the only facility operating over capacity with a 106 percentage.

Table 3.3-4
School Capacity

School	2008 School Capacity	Actual 2007-2008 Enrollment	Percentage of Capacity	2008 State Capacity
Elementary Schools	**5,059**	**4,366**	86.3%	5,345
Bay Farm	584	552	94.5%	630
Earhart	711	582	81.9%	728
Edison	368	389	105.7%	385
Franklin	296	284	95.9%	325
Haight	573	427	74.5%	590
Lum	535	503	94.0%	552
Otis	446	399	89.5%	463
Paden	484	362	74.8%	501
Ruby Bridges	549	519	94.5%	612
Washington	513	349	68.0%	559
Middle Schools	**3,016**	**2,216**	**73.5%**	**3,016**
Chipman	957	587	61.3%	957
Lincoln	1,131	926	81.9%	1,131
Wood	928	703	75.8%	928
High Schools	**4,309**	**3,381**	**78.5%**	**4,901**
Alameda (inc. ASTI)	2,115	2,060	97.4%	2,581
Encinal	1,759	1,131	64.3%	1,885
Island	435	190	43.7%	435
Other	**NA**	**352**	**NA**	**NA**
Total	**12,384**	**9,963**	**80.5%**	**13,262**

Source: AUSD 2009

Recent changes for the AUSD include the transition of Woodstock and Longfellow elementary schools into charter schools, which has effectively removed them from capacity planning. There is some concern among AUSD administrators that nationwide economic troubles, which emerged in late 2008, may increase the need for public education in the AUSD as more and more residents opt out of paying for private education. As characterized by AUSD administration, the school district is meeting current demand but may not be able to accommodate a large influx of new students.

According to recent nationwide research by the Russell Sage Foundation, the average number of children per household varies depending on household income, with the most affluent households having fewer children, and those households with lower income having more children. In 2003, the average number of children for the least

affluent households in the study was approximately 1.92, while the most affluent households had an average of approximately 1.82 children per household. In 2000, these rates were slightly higher, at approximately 1.99 and 1.85, respectively (Russell Sage Foundation 2009). According to U.S. Department of Agriculture (USDA) statistics from 2005 regarding the household composition of low-income households, approximately 38 percent of all households have a child present (USDA 2007). Student generation rates in the FEIS estimated that each single-family household in Alameda generated 0.436 students, although the ratio ultimately used was 0.484 students per household due to similarities with homes construction in Bay Farm Island. Due to the documented higher rate of children for low-income households (Russell Sage Foundation 2009), and the likelihood that all new residents seeking housing within the project area would be of relatively low-income, it is conservatively estimated that a student generation rate of 0.730 should be applied to this project.[1] The grade-level-specific student generation ratios in the FEIS have been applied to this higher rate, as displayed in Table 3.3-5. These student generation rates will be applied in estimating the student enrollment associated with residential housing in Chapter 4.

Table 3.3-5
Student Generation

Grade Range	No. of Students per Household
K-5th	0.377
6th-8th	0.170
9th-12th	0.183
Total	**0.730**

3.3.5 Recreation

As of 2001, the City of Alameda owns and maintains 1,094 acres of developed parks and recreation areas, beaches, and open spaces. Within this area are 13 neighborhood parks, 4 community parks, approximately 45 acres of community open space, and 889 acres of undeveloped park lands. The City of Alameda also includes 440 acres of limited access lands, including AUSD facilities and a 328-acre (133.7-hectare) municipal golf course on Bay Farm Island, among other spaces. Facilities and amenities within the

[1] This rate is derived from multiplying the proportion of low-income households with children in 2005 (38.0 percent) by the average children per household in 2003 (1.92).

Alameda Park and Recreation Department include boat launches, a soccer field, a model airplane field, and shoreline trails (City of Alameda 2006b).

3.3.6 Employment

In the Oakland PMSA, the employed labor force increased more quickly from 1980 to 2005 (40.5 percent) than for Alameda County (35.2 percent) and the City of Alameda (12.7 percent). The increase in the regional labor force is due both to increased population (discussed previously) and increased employment opportunities (discussed below); as was the case in 1995, there were not as many new jobs in Alameda County as there were in Contra Costa County. Projections suggest, however, that an increase in employed residents will be similar from 2005 to 2030 for the County of Alameda, with the projected growth for Alameda County during this range anticipated to exceed the growth projected for the Oakland PMSA (Table 3.3-6).

Table 3.3-6
Employed Residents in the Region of Influence (1980-2030)

Area	1980	1990	2000	2005[a]	2020	2030	Percent Change 1980-2005	Percent Change 2005-2030
Oakland PMSA[b]	829,545	1,057,812	1,171,549	1,165,500	1,464,000	1,701,200	40.5%	46.0%
Alameda County	522,069	648,461	709,557	705,900	883,900	1,038,800	35.2%	47.2%
City of Alameda	33,885	44,553	38,948	38,190	46,810	54,100	12.7%	41.7%

[a] Due to statistical differences between the U.S. Census Bureau and ABAG for this dataset, ABAG data has been used exclusively. Thus, 2005 data has been provided in the table as the most recent figure available.
[b] Alameda and Contra Costa Counties
Source: ABAG 2006

According to the FEIS, growth in the City of Alameda during the 1980s is largely attributable to a large increase in jobs associated with homeported Navy ships and military-related employment. City employment declined, however, in 2000 and 2005, once the military employment had largely left the immediate area. Job growth is anticipated to occur in the future; however, with growth (41.7 percent) slightly less than what is expected for the region as a whole (46.0 percent).

3.3.7 Unemployment Rates

In 2007, the unemployment rate for the Oakland PMSA was approximately 6.7 percent, which is slightly higher than the unemployment figure cited in the FEIS for the region. The City of Alameda's unemployment figure in 2007 was slightly less than the county as a whole (7.2 percent), at 6.1 percent. This figure is substantially higher than the unemployment figure for the City in 1995, however, which was 3.4 percent.

3.3.8 Employment

As discussed above, jobs in the Oakland PMSA grew faster from 1980 to 2005 than in Alameda County due primarily to substantial employment opportunities in Contra Costa County. The City of Alameda job base grew between 1980 and 1990 due to a newly homeported ship. In the years following 1990, however, jobs in the City of Alameda declined and are not projected to rise above 1990 levels until 2020. Between 1990 and 2005, job growth in the City of Alameda declined, due primarily to the base closure. However, projected job base numbers anticipate a 3.1 percent growth between 2005 and 2030, which exceeds the growth anticipated for the county as a whole and for the Oakland PMSA (Table 3.3-7).

Table 3.3-7
Employment in the Region of Influence (1980-2020)

							Annual Average Growth	
Area	1980	1990	2000	2005[a]	2020	2030	Historic 1980-2005	Projected 2005-2030
Oakland PMSA[b]	715,034	924,810	1,121,470	1,109,300	1,375,090	1,589,260	2.2%	1.7%
Alameda County	513,797	620,980	750,160	730,270	902,180	1,037,730	1.7%	1.7%
City of Alameda	34,048	37,450	27,380	27,400	38,230	48,520	-0.8%	3.1%

[a] Due to statistical differences between the U.S. Census Bureau and ABAG for this dataset, ABAG data has been used exclusively. Thus, 2005 data has been provided in the table as the most recent figure available.
[b] Alameda and Contra Costa Counties
Source: ABAG 2006; U.S. Census Bureau 2007

3.3.9 Environmental Justice

Executive Order (EO) 12898, 59 Federal Register 7629, Federal Action to Address Environmental Justice in Minority Population and Low-Income Populations, signed in February 1994, directs federal agencies "… to make achieving environmental justice part of its mission by identifying and addressing … disproportionately high and adverse

human health or environmental effects of its programs, policies, and activities on minority population and low-income population in the [U.S.]." The first step in an environmental justice analysis is to identify minority populations and low-income populations, if any, within the socioeconomic ROI. Following CEQ guidance, presence or absence of minority populations or low-income populations for the purposes of environmental justice analysis is determined by assessing whether minority populations or low-income populations are present in the ROI in proportions meaningfully greater than in the general population. The general population is typically defined as being that of relevant larger governmental jurisdictions, such as an adjacent larger municipality or the county as a whole. In this instance, population proportions within the City of Alameda and census tracts neighboring the project area that are in whole or in part 0.5 miles (0.8 kilometers), are compared against those of Alameda County, Contra Costa County, and the greater PMSA area.[2]

3.3.10 Minority Populations

Table 3.3-8 provides information on total population, minority population, and percentages of minority population within the ROI. Total minority populations, for the purpose of this analysis, represent all individuals in the population except white, non-Hispanic persons. As shown, four of the six census tracts within 0.5 miles (0.8 kilometers) of the project area exhibit total minority percentages in excess of 50 percent, as does Alameda County as a whole, but only two census tracts exceed the county average.

3.3.11 Low-Income Populations

Low income populations are typically described in terms of median household income or in terms of the persons living below poverty level. The estimated median household income and the proportion of those living in poverty are shown in Table 3.3-9. As illustrated in the table, the City of Alameda has a slightly higher median household income than the County, although the median household income for Contra Costa County is higher than that of either the City or the County of Alameda. Of the census

[2] It should be noted that two census tracts (CT) included in the analysis, CT 4020 and CT 4032, have relatively low population density with total populations of 28 and 63 persons, respectively. This low density can have the affect of skewing proportions of certain demographic and socioeconomic characteristics.

Table 3.3-8
Race and Ethnicity in the Region of Influence, 2000

Area	White	Black	American Indian or Alaska Native	Asian	Native Hawaiian or Other Pacific Islander	Some Other Race	Two or More Races	Hispanic	Total Minority
Oakland PMSA[a]	55.4%	12.7%	0.6%	16.7%	0.5%	8.6%	5.4%	18.5%	52.3%
Alameda County	48.8%	14.9%	0.6%	20.4%	0.6%	8.9%	5.6%	19.0%	59.1%
Contra Costa County	65.5%	9.4%	0.6%	11.0%	0.4%	8.1%	5.1%	17.7%	42.1%
Alameda	56.9%	6.2%	0.7%	26.1%	0.6%	3.3%	6.1%	9.3%	47.5%
Census Tract 4020	25.0%	25.0%	14.3%	3.6%	0.0%	28.6%	3.6%	35.7%	82.1%
Census Tract 4032	47.6%	15.9%	3.2%	19.0%	0.0%	9.5%	4.8%	12.7%	54.0%
Census Tract 4273	52.1%	7.6%	0.8%	27.6%	1.2%	3.3%	7.4%	10.4%	52.6%
Census Tract 4274	66.8%	10.1%	1.2%	5.7%	2.5%	6.4%	7.4%	14.2%	38.7%
Census Tract 4275	67.5%	4.8%	16.3%	2.0%	0.0%	3.3%	6.1%	12.3%	38.0%
Census Tract 4276	20.9%	30.6%	0.6%	33.5%	0.7%	5.1%	8.6%	12.1%	83.7%

[a] Alameda and Contra Costa Counties
Source: U.S. Census Bureau 2000

Table 3.3-9
Median Household Income and Percent of Population Living in Poverty in the Region of Influence, 1999

Area	Median Household Income	Proportion of Population Living in Poverty
Oakland PMSA[a]	$63,675–$55,946	9.7%
Alameda County	$55,946	11.0%
Contra Costa County	$63,675	7.6%
Alameda	$56,285	8.2%
Census Tract 4020	$61,250	20.0%
Census Tract 4032	$104,385	0.0%
Census Tract 4273	$52,183	9.7%
Census Tract 4274	$45,588	2.4%
Census Tract 4275	$72,321	7.9%
Census Tract 4276	$37,585	15.9%

[a] Alameda and Contra Costa Counties
Source: U.S. Census Bureau 2000

tracts within 0.5 miles (0.8 kilometers) of the project area, only Census Tracts 4020 and 4276 have poverty percentages that exceed that of Alameda County as a whole.

3.3.12 Protection of Children from Environmental Health Risks and Safety Risks

EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, was signed by President Clinton on April 21, 1997, directing federal agencies to "…make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children, and to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." Under the definitions provided in EO 13045, covered regulatory actions include those that may be "economically significant" (under EO 12866) and "concern an environmental health risk or safety risk that an agency has reason to believe may disproportionately affect children." Further, EO 13045 defines "environmental health risks and safety risks" [to] "mean risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to)."

For the purposes of this analysis, children are considered those individuals who are under 18 years of age. Table 3.3-10 presents information on the total population of the

ROI and census tracts within 0.5 miles (0.8 kilometers) of the project area under the age of 18, along with information for the greater Oakland PMSA for comparison. As shown, the proportion of children living within the City of Alameda is slightly lower than that of the Alameda County as a whole. Census tracts within 0.5 miles (0.8 kilometers) of the project area range from 1.6 percent to 34.7 percent. There are two schools in proximity to the southern end of the project area: Island High School and Woodstock Early Development Center. Both schools are adjacent to the site, across Singleton Avenue. Other nearby schools to the project area include the Alternatives in Action Charter School (approximately 0.5 miles [0.8 kilometers]), Ruby Bridges Elementary (approximately 0.3 miles [0.4 kilometers]), Peter Pan School (0.4 miles [0.6 kilometers]), and the Alameda Science and Technology Institute (0.4 miles [0.6 kilometers]).

Table 3.3-10
Population and Proportion of Children, 2000

Area	Total Population	Total Population Under Age 18	Proportion of Children
Oakland PMSA[a]	2,392,557	606,366	25.3%
Alameda County	1,443,741	354,572	24.6%
Contra Costa County	948,816	251,794	26.5%
Alameda	72,259	15,534	21.5%
Census Tract 4020	28	3	10.7%
Census Tract 4032	63	1	1.6%
Census Tract 4273	4,760	928	19.5%
Census Tract 4274	1,252	435	34.7%
Census Tract 4275	545	114	20.9%
Census Tract 4276	5,079	1,656	32.6%

[a] Alameda and Contra Costa Counties
Source: U.S. Census Bureau 2000

3.4 PUBLIC SERVICES

This section provides information on public services currently being provided to the project area. These services include fire protection, emergency medical services, and police services.

Prior to 1997, public services for the entire NAS Alameda were provided exclusively by Navy personnel. Following the closure of the majority of NAS Alameda in 1997, the City of Alameda began providing law enforcement, fire protection, and emergency medical services to the areas adjacent to the project area as well as to other unoccupied areas of NAS Alameda. The project area is not subject to the LIFOC, a lease that has been executed between the Navy and ARRA. Therefore, the ARRA is not required to provide security services or exercise any efforts to properly layaway and secure the former housing units at the project area. However, due to the concurrent jurisdiction at NAS Alameda, City of Alameda public services agencies are authorized to respond to all incidents at the project area.

3.4.1 Fire Protection and Emergency Medical Services

The City of Alameda Fire Department (Fire Department), under contract to the Navy, provides fire protection and emergency medical services to the project area. The Fire Department employs 102 personnel that staff five fire stations. This includes the former Navy fire station within NAS Alameda that is now staffed by Fire Department personnel. The Fire Department maintains five engine companies, two aerial ladder companies, and three ambulance companies. All fire personnel are certified Emergency Medical Technicians or Paramedics. The ambulance personnel also are trained for fire fighting, and, when needed, provide support using the Fire Department's reserve engines (Johe 2009).

3.4.2 Police Services

The City of Alameda Police Department (Police Department) provides law enforcement services to the project area and adjacent lands within the former NAS Alameda. The Police Department provides services that include law enforcement, criminal investigations, and parking enforcement. The Police Department also operates an animal shelter and provides animal control devices.

3.4.3 Regulatory Considerations

City of Alameda General Plan

The City of Alameda General Plan (City of Alameda 1991) outlines a number of fire and emergency hazard policies, including the following:

- 8.2.a Maintain and expand the City's fire prevention and fire-fighting capability;
- 8.2.b Maintain current level of emergency medical service;
- 8.2.c Update the City's list of "critical facilities";
- 8.2.d Assure new structures comply with the City's fire, seismic, and sprinkler codes; existing structures shall be required to comply with the intent of the codes in a cost-effective manner; and
- 8.2.e Require developers to plan underground utilities so disruption by earthshaking or other natural disasters is diminished.

3.5 UTILITIES

This section presents an overview of the utility systems at the project area, including those for water distribution, sanitary wastewater, storm drainage, solid waste management, telephone, electricity, natural gas, and cable television. The utilities system for the North Housing Parcel also serves the separately USCG-owned Marina Village housing area and a separate Alameda Unified School district public school and accompanying day care center.

The following utility providers currently provide services to the project area (U.S. Navy 1999):

- East Bay Municipal Utility District (EBMUD) – Water Supply and Distribution
- EBMUD – Sanitary Wastewater
- EBMUD – Storm Drainage
- Alameda County Industries (ACI) – Solid Waste
- AT&T – Telephone
- Alameda Power and Telecom (AP&T) – Electricity
- Pacific Gas and Electric Company – Natural Gas
- COMCAST – Cable Television

3.5.1 Water Supply and Distribution

The primary source of water for the project site is the Pardee Reservoir in the Molkelumne River in the Sierra Nevada Mountains. The water is treated and stored at the Orinda Filter Plant and is conveyed to the project area via a pipeline beneath the Oakland Inner Harbor. Under a joint powers agreement with the City of Alameda, the EBMUD is responsible for operating the water distribution system to the project site and the surrounding community (U.S. Navy 1999). Since the utility systems are on federal property, EBMUD does not service the lines. Currently, an Interim Utility Use Agreement between the Navy, the City of Alameda, and USCG, makes USCG the immediate manager of the lines. This will remain in effect until the transfer is complete. As the existing housing units in the project area are currently unoccupied, the water demand to the area is low.

3.5.2 Sanitary Wastewater

The sanitary wastewater collection and treatment system at the project area is operated by the EBMUD. As stated above, the USCG is responsible for maintaining the lines and lift station. A lift station is located on the northeast portion of the site, between the residence at 401 Mosley Avenue and the basketball court. This lift station requires maintenance three times per week. The main EBMUD wastewater treatment plant at the foot of the San Francisco-Oakland Bay Bridge has a dry weather treatment capacity of 454 million liters per day and a wet weather treatment capacity of 1,211 million liters per day; however, the plant can receive a maximum of 1,571 million liters per day by using a wet weather storage basin. The wet weather capacity is greater than the dry weather capacity due to the presence of storm water in the sewer lines that dilutes the wastewater, thus requiring less treatment (U.S. Navy 1999). As the existing housing units in the project area are currently unoccupied, sanitary wastewater service needs of the project area are low.

3.5.3 Storm Drainage

The storm drainage collection systems at the project area are operated and maintained by the EBMUD. The storm drainage collection system in the project area consists of drains, catch basins, and discharge outfalls to the Oakland Inner Harbor and San Francisco Bay (U.S. Navy 1999).

3.5.4 Solid Waste Management

Solid waste is collected and disposed of by ACI, which serves the City of Alameda, and is taken to Altamont Landfill & Resource Recovery facility. As the existing housing units in the project area are currently unoccupied, the solid waste disposal needs of the project area are low.

3.5.5 Telephone

The current telephone system serving the project area is owned and operated by AT&T. This service, however, is market driven and the provider may change in the future per market conditions. As the existing housing units in the project area are currently unoccupied, the telephone service needs of the project area are low.

3.5.6 Electricity

AP&T provides electrical service to the project area. As the existing housing units in the project area are currently unoccupied, the electricity needs of the project area are low.

3.5.7 Natural Gas

The natural gas distribution system to the project area is operated and maintained by Pacific Gas and Electric (Cook 2009). As the existing housing units in the project area are currently unoccupied, the natural gas needs of the project area are low.

3.5.8 Cable Television

COMCAST provides cable television services to the project area (Cook 2009). As the existing housing units in the project area are currently unoccupied, there are no cable television services being provided to the area.

3.5.9 Regulatory Setting

The Safe Drinking Water Act – The USEPA administers the Safe Drinking Water Act. It is the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The Department of Health Services (DHS) oversees public water system quality statewide. DHS establishes legal drinking water standards for contaminants that could threaten public health (City of Alameda 2006b).

City of Alameda General Plan – The City of Alameda General Plan contains the following policies regarding public utilities that may be applicable to the proposed project.

Open Space and Conservation Element

Policy 5.1.h: Continue to support EBMUD in its efforts to promote and implement water conservation measures.

Policy 5.1.i: Encourage the use of drought-resistant landscaping.

Policy 5.1.aa: Review proposed development projects for both water and energy efficiency, and integrate plans for the use of reclaimed wastewater for landscaping as a condition of approval.

Health and Safety Element

Policy 8.2e: Require new development to plan underground utilities so disruption by earthshaking or other natural disasters is diminished.

Policy 8.4.a: Continue to identify and assess the risks associated with various hazardous materials transported in Alameda.

Policy 8.4.b: Clarify responsibilities for resolving incidents of hazardous materials release.

Policy 8.4.c: Apply the Emergency Operations Plan, if necessary, in response to a hazardous materials release disaster.

Policy 8.4.d: Continue to support the resource recovery measures specified in the Alameda County Solid Waste Management Plan, July 1987.

Policy 8.4.e: Continue to support implementation of the Alameda County Hazardous Waste Management Plan.

Policy 8.4.j: Implement the residential area curbside recycling program.

3.6 CULTURAL RESOURCES

3.6.1 Definition of Resource

Cultural resources include buildings, structures, sites, districts, and objects eligible for or included in the National Register of Historic Places (NRHP), cultural items, Indian sacred sites, archaeological artifact collections, and archaeological resources (SECNAVINST 4000.35 a). Cultural resources can be divided into three major categories: archaeological resources, architectural resources, and traditional cultural resources.

Archaeological resources are material remains of past human life that are capable of contributing to scientific or humanistic understanding of past human behavior, cultural adaptation, and related topics through the application of scientific or scholarly techniques. Archaeological resources can include village sites, temporary camps, lithic scatters, roasting pits/hearths, milling features, rock art (both petroglyphs and pictographs), rock features, and burials.

Architectural resources include real properties, sites, buildings, structures, works of engineering, industrial facilities, fortifications, and landscapes.

Traditional cultural resources are tangible places or objects that are important in maintaining the cultural identity of a community or group and can include archaeological sites, buildings, neighborhoods, prominent topographic features, habitats, plants, animals, and minerals.

Historic properties are cultural resources that meet one or more criteria for eligibility for nomination of the resource to the NRHP. Under Section 106 of the National Historic Preservation Act (NHPA) of 1966 as amended and its implementing regulations at 36 CFR 800, only significant cultural resources warrant consideration with regard to adverse impacts from a federal agency's proposed action. To be considered significant, archaeological or architectural resources must meet one or more criteria as defined in 36 CFR 60.4 for inclusion in the NRHP. Resources generally must be more than 50 years old to be considered for protection under the NHPA. However, more recent structures associated with significant national events may warrant protection if they are "exceptionally significant."

Several other federal laws and regulations have been established to manage cultural resources, including the Archaeological and Historic Resources Preservation Act (1974), the Archaeological Resources Protection Act (1979), and the Native American Graves Protection and Repatriation Act (1990). In addition, coordination with federally recognized Native American organizations must occur in accordance with the American Indian Religious Freedom Act (1978), Executive Order 13007, Sacred Sites; and Executive Order 13175, Consultation and Coordination with Indian Tribal Governments.

3.6.2 Project Area and Setting

The project area is located in the northeastern portion of the former NAS Alameda and includes the entire footprint of the North Housing Parcel area. The project area contains the housing units located on Mosely Avenue Singleton Avenue, Mayport Circle, Kollman Circle, Monterey Circle, Lakehurst Circle, and Annapolis Circle. The project area also contains the 8 acres of open space to the north of Mosley Avenue. (see Figure 1-2).

According to an 1857 historic map of the area, all of the Navy's property at former NAS Alameda (including the current project area) is located on former marshland located on the northwestern portion of Alameda Island, on the east side of Oakland Bay. Imported fill was brought into the area during the late 1800s and early 1900s to support early railroad construction in the area, infilling the marshland around Alameda Island. A 1918 historic map of the area indicates that it was being filled. As the project area is located on former marshland and has been built on fill, the likelihood of encountering intact archaeological sites within the former NAS Alameda area is very low.

Development in the project area in the 1920s and 1930s was limited to three small airports with several support buildings. In 1931, the United States Army established a presence on the western end of Alameda Island. Between 1936 and 1940, additional land was reclaimed from the marshland and NAS Alameda was created from land previously held by the U.S. Army Corps, the City of Alameda and newly reclaimed marshland. During World War II, structures were constructed at the FISC Facility, located east of and adjacent to NAS Alameda (Alameda 2006b).

NAS Alameda saw two major housing expansions in the post-World War II era. These expansions coincided with the expanded role played by NAS Alameda in the escalation of American involvement in the Vietnam War. The first housing expansion took place inside the fenced boundary of NAS Alameda between 1963 and 1965. As the war

progressed and America's commitment expanded, another round of housing construction took place, this time outside the fenced perimeter in 1969. The North Housing Parcel was built in a contemporary style using pre-fabricated materials to accommodate the increasing number of Navy enlisted personnel and their families. The North Housing area is comprised of approximately 42 acres and 51 buildings. The buildings are a mix of 4-plex and 6-plex layouts. Thirty-nine of those buildings are 6-plex housing structures that contain a variation of 3-bedroom units and 4-bedroom units; and, 12 buildings are 4-plex housing structures that contain 4-bedroom units. In total, there are 146 3-bedroom units and 136 4-bedroom units. All of the buildings were constructed in 1969.

Archaeological Resources

In 1996, the Navy investigated the potential presence of archaeological resources located in the project area. Thorough background research was conducted under a Navy contract by PAR Environmental Services in the report titled "Fleet Industrial Supply Center – Alameda Annex/Facility and Naval Air Station Alameda Family Housing" (Maniery et al.1996). This report provided a summary of the records search, an analysis of historic land use, and the results of a pedestrian archaeological survey. The 1996 report did not identify any archaeological resources within the current project area. The report noted that because the project area is located on former marshland and has been built on fill, the likelihood of encountering intact archaeological sites within the former NAS Alameda area is very low. On 23 April 2009, the Navy provided this data during its Section 106 consultation concerning the North Housing disposal and reuse project. (Lee 2009) In a June 17, 2009 letter, the California SHPO concurred with Navy's identification efforts and finding of "no historic properties affected" for project. (Donaldson 2009)

Architectural Resources

In 2009, the Navy surveyed and evaluated the NRHP eligibility of all extant buildings, structures, and open spaces located inside the project area at the North Housing complex. This inventory and evaluation effort was recorded on a Department of Parks and Recreation (DPR 523) form and submitted to the California SHPO on 23 April 2009 during the Navy's Section 106 consultation concerning this project. The evaluation concluded that none of the buildings, structures, or open spaces within the project area were eligible for the NRHP. In a June 17, 2009 letter, the California SHPO concurred

with Navy's identification efforts and finding of "no historic properties affected" for the North Housing disposal and reuse. (Donaldson 2009)

Traditional Resources

On 5 February 2009, the Navy initiated consultation with consulting parties regarding the current project area. Letters were sent to each contact, with a description of the proposed project and location of the project. To date, no responses have been received from any of the consulting parties. Based on the lack of response and the findings of previous investigations and record searches, the Navy concluded that there are no known traditional cultural resources located within the project area. The Navy received concurrence from the California SHPO on this finding in a letter dated 17 June 2009 (Donaldson 2009).

3.7 BIOLOGICAL RESOURCES

This section describes biological resources at and near NAS Alameda North Housing Area, including vegetation, wildlife, sensitive species, and sensitive habitats. Vegetation and wildlife are described in terms of habitat types present within the 42-acre (15-hectare) North Housing Area. A discussion of applicable laws and regulations governing these resources is provided at the end of this section.

The ROI for biological resources includes the NAS Alameda North Housing Area, NAS Alameda/FISC Alameda, and surrounding native habitats within a 1-mile (1.6-kilometer) radius. This 1-mile (1.6-kilometer) radius was selected because this area includes sensitive species and habitats that could be affected by reuse activities. Sensitive species observed off-site within the ROI may also use habitat at the NAS Alameda North Housing Area and NAS Alameda/FISC Alameda. The environmental baseline for biological resources is representative of operational conditions at NAS Alameda North Housing Area and the greater NAS Alameda/FISC Alameda, updated by more current surveys where applicable. This section supplements the Biological Resources section of the 1999 FEIS for the Disposal and Reuse of NAS Alameda (U.S. Navy 1999) to address biological resources at NAS Alameda North Housing Area.

Of particular note and importance to the 1999 analysis was the southwest portion of Alameda Island, approximately 1 mile (1.6-kilometer) west of the North Housing Area, which served as runways and taxiways for the NAS. The central portion of the deteriorating tarmac supports one of the largest and most successful breeding colonies of the endangered California least tern (*Sternula antillarum browni*) in the state and nearly the entire least tern breeding population in the Bay Area. This area was identified in the FEIS as the "U.S. Fish and Wildlife Service (USFWS) Wildlife Refuge" planning area as the intent was to transfer the land to the USFWS to be maintained and managed as a refuge. The tern colony was one of the major reasons for the USFWS's request for the property; however, the USFWS did not exercise its option to take the land. The approximate 550-acre property is currently under consideration by another federal entity. For simplicity it is referred to as the former USFWS Wildlife Refuge planning area in this document. Since there have been no significant changes in the environmental condition or proposed use of other remaining surplus property at NAS Alameda, the biological resources specific to that land may be referred to for contextual purposes but will not be analyzed in this EA. Where appropriate, reference will be made to the 1999 FEIS.

Methodology

The environmental baseline for biological resources is representative of Navy operations at NAS Alameda North Housing Area and the greater NAS Alameda/FISC Alameda, as updated by recent biological resources surveys. A site visit to review current biological conditions for the NAS Alameda North Housing Area was conducted on February 11, 2009 by EDAW biologist Jason Phillips. Results of the site visit were utilized to describe vegetation and wildlife conditions on site in the sections below. No protocol surveys were conducted and no formal report was prepared. Biological resource data were collected from the California Natural Diversity Data Base (CNDDB) (California Department of Fish and Game [CDFG] 2009), a species list from the USFWS (USFWS 2009), the California Native Plant Society (CNPS) inventory of rare and endangered plants (CNPS 2008), a report of existing conditions at the site (City of Alameda 1996), the amended Community Reuse Plan (City of Alameda 1996), the NAS Alameda Master Plan and Natural Resource Management Plan, the 1995 Base Realignment and Closure Cleanup Plan, proceedings from a symposium on natural resources at NAS Alameda, and a Wetland Evaluation Technique report of NAS Alameda (U.S. Navy 1999).

The FEIS has an extensive review of the literature regarding the California least tern at NAS Alameda included nesting reports from 1983 to 2008, foraging reports from 1984 to 2007, and nesting site characteristics (U.S. Navy 1999). The ARRA conceptual management plans for the California least tern at NAS Alameda (City of Alameda 1996) and USFWS Draft Comprehensive Conservation Plan (USFWS 2000) provided background information and the basis for some of the mitigation measures. Letters and background information from previous Section 7 endangered species consultations with the USFWS that were in the FEIS were reviewed, as well as technical biological resource reports prepared for current USFWS consultations (EDAW 2008, 2009).

3.7.1 Vegetation

Vegetation is described in terms of habitat types rather than natural vegetation communities because NAS Alameda North Housing Area is located primarily on bay fill land and most of the site is developed. Habitat types identified at NAS Alameda North Housing Area include ruderal, landscaped, or developed areas. The locations of these habitat types are shown in Figure 3.7-1. The site consists of residential housing,

associated lawns, streets, parking areas, and playfields. The entire 42-acre (15-hectare) site is developed or maintained as landscaping, therefore it is lacking in natural habitats. Sensitive natural communities such as aquatic features are absent. Natural vegetation communities such as grassland and wetlands including saltmarsh and seasonal wetlands were not found on the project area, but do exist east of Main Street at the most western portions of the former NAS. Open waters of the San Francisco Bay and the Oakland Inner Harbor are located in the immediate vicinity although they do not directly border the site. Waters of the Oakland Inner Harbor are located 120 feet (36.5 meters) to the north. Plant species observed on the subject property are primarily ornamental trees and ruderal or landscaped grasses and forbs.

Ruderal/Landscaped

The northern quarter of the site is characterized by grassy playfields and scattered trees. A parking area bisects baseball and soccer fields to the west from a manicured lawn and basketball court to the east, encircled by a paved walking path. At the time of the site visit, the grass had been recently mowed. Ornamental tree species present include Monterey pine (*Pinus radiata*), blackwood acacia (*Acacia melanoxylon*), and Brazilian peppertree (*Schinus terebinthifolius*). Nonnative herbaceous species typically found in ruderal and landscaped areas of the region including ox tongue (*Picris echioides*), burclover (*Medicago polymorpha*), cudweed (*Gnaphalium luteum-album*), English plantain (*Plantago lanceolata*), and Bermuda grass (*Cynodon dactylon*) predominate the playfields and surrounding open grassy areas.

Developed/Landscaped

The southern three quarters of the NAS Alameda North Housing Area is more intensively developed with roads, residential buildings, and parking areas. A gravel playground and large grassy area is present in the central portion of this area. Landscaping consisting of lawns and patchy ornamental trees is interspersed between the buildings and roadways. Landscaped vegetation in the more developed area consists of the same ornamental species and other nonnative species as described above.

Source: Tetra Tech 2009, ESRI 2009

200 100 0 200 Feet

Scale: 1 = 130,213; 1 inch = 10,851 feet

Figure 3.7-1
Vegetation Type

Path: P:\2007\07080411 Alameda EA\5GIS\MXD\Veg_type.mxd, 04/29/09, SorensenJ

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3.7.2 Wildlife

Wildlife utilizes all of the habitat types at NAS Alameda/FISC Alameda. As identified in the 1999 FEIS (Navy 1999), the primary wildlife habitats are the grasslands and wetlands near the airfield, the airfield itself, and the rock breakwaters. Most of this wildlife habitat is within the former USFWS Wildlife Refuge planning area. Grasslands within the Northwest Territories planning area also are used by wildlife. These areas provide nesting, roosting, foraging, and haul-out sites for birds and marine mammals. The Bay Area is a crucial nesting and foraging area and wintering ground for thousands of birds in the Pacific Flyway, which extends from South America to the Arctic Circle (U.S. Navy 1999). Appendix D and Table 3-15 in the 1999 FEIS includes a list of animal species observed at or that have the potential to inhabit habitats present within NAS Alameda/FISC Alameda. Based on the absence of suitable habitats within the NAS Alameda North Housing Area, most of these species are not expected to occur and therefore are not discussed in detail in this section. Wildlife in the developed areas on NAS Alameda/FISC Alameda, such as NAS Alameda North Housing Area, is typical of that found in disturbed urban areas of the region and includes common invertebrates, amphibians, reptiles, birds, and mammals. Given its intensively developed nature, NAS Alameda North Housing Area provides limited wildlife habitat. Those species that are adapted to disturbed habitats and human activity are most likely to be present as discussed below.

Ruderal/Landscaped Areas

Landscaped areas around buildings, residences, and parks are used primarily by typical urban wildlife, such as western scrub jays (*Aphelocoma californica*), red-winged blackbirds (*Agelaius phoeniceus*), house finches (*Carpodacus mexicanus*), American robins (*Turdus migratorius*), Beechey ground squirrels (*Spermophilus beecheyi*), and various species of squirrels. Raptors and other predators may use these areas for foraging. Grasslands at NAS Alameda provide nesting sites and foraging areas for a variety of wildlife. Northern harriers (*Circus cyaneus*) nest in the upland areas adjacent to the wetlands and forage in a variety of habitats. Killdeer (*Charadrius vociferus*), horned larks (*Eremophila alpestirs*), and burrowing owls (*Athene cunicularia*) have been observed nesting in the grasslands at NAS Alameda. Red-tailed hawks (*Buteo jamaicensis*), northern harriers, peregrine falcons (*Falco peregrinus*), white-tailed kites (*Elanus leucurus*), American kestrels (*Falco sparverius*), and other avian predators prey on the doves (*Columba livia* and *Zenaida maroura*), black-tailed jackrabbits (*Lepus*

californicus), and Beechey ground squirrels in the grasslands (Feeney 1994). Although the open grassy area on the northern portion of NAS Alameda North Housing Area is landscaped and more influenced by human activity than grassland areas to the west, there is potential for these avian species to forage within this area and nest within the scattered ornamental trees. The following birds were observed during the recent site visit: red-tailed hawk, American robin, American crow (*Corvus brachyrhynchos*), western gull (*Larus occidentalis*), black phoebe (*Sayornis nigricans*), red-winged blackbirds, rock dove, and western meadowlark (*Sturnella neglecta*).

As discussed in the FEIS, bats use buildings at NAS Alameda/FISC Alameda for shelter, resting, and foraging (U.S. Navy 1999). In the landscaped or developed and intensively developed areas, more than 330 buildings within the Civic Core, Main Street Neighborhoods, North Waterfront, Marina, and Inner Harbor planning areas of NAS Alameda/FISC Alameda were surveyed for bats between December 6, 1995, and January 2, 1996. Evidence, such as fecal pellets and squeaking, of the common Mexican free-tailed bat (*Tadarida brasiliensis*) were observed in warehouses 2, 3, and 4, in an intensively developed area of the North Waterfront planning area. At the time, the study concluded that there was no evidence of any sensitive bat species in the area (U.S. Navy 1999).

Developed/Landscaped Areas

Typical urban wildlife, such as California ground squirrels, scrub jays, and American robins, occur in the more intensively developed area given the presence of landscaping interspersed throughout. Feral cats (*Felis catus*) are also found in the developed areas and all other terrestrial habitats at Alameda NAS (U.S. Navy 1999).

3.7.3 Sensitive Species

Sensitive species include those that are listed or proposed for listing by the USFWS or the CDFG as endangered, threatened, or rare; candidate species for listing; species of concern; and species of special concern. Also included as sensitive species are plants that are listed by the CNPS as rare or endangered. Sensitive species are provided varying levels of legal protection under the Federal Endangered Species Act, 16 U.S.C. § 1531-1544 (West 1985 & Supp. 1998), and California Endangered Species Act (CESA), Cal. Fish and Game Code 5§ 2050-2116 (U.S. Navy 1999), depending on their classification, and are considered under NEPA and California Environmental Quality Act

(CEQA). Additional species receive federal protection under the Bald and Golden Eagle Protection Act (e.g., bald eagle, golden eagle) and the MBTA. All birds, except European starlings, English house sparrows, rock doves (pigeons), and non-migratory game birds such as quail, pheasant, and grouse, are protected under the MBTA. Table 3-15 of the 1999 FEIS lists sensitive plant and animal species that have been or may be found within the ROI for NAS Alameda/FISC Alameda (U.S. Navy 1999). Most of the potential habitat for sensitive species is on the former USFWS Wildlife Refuge planning area. None of these sensitive species were considered likely to be found at FISC Alameda. With the exception of some special-status birds that are more adapted to disturbed habitats and potentially roosting bats, sensitive species are not expected to occur within NAS Alameda North Housing Area due to the developed nature and lack of suitable habitat. Sensitive birds and bats that have potential to occur onsite are summarized in Table 3.7-1 and are discussed below.

Sensitive Plants

No sensitive plants are known to occur at NAS Alameda/FISC Alameda, and none have been found in previous surveys of the site. NAS Alameda/FISC Alameda is highly urbanized, and there is only a minimal amount of natural vegetation on the site. The 1999 FEIS identified seven sensitive plants with the potential to be found at NAS Alameda/FISC Alameda because they have been observed within the ROI. Of these seven species, five were unlikely to grow there because there are no suitable habitats, such as chaparral, coastal prairies, vernal pools, or coniferous forests. The two remaining species, Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *palustris*), a CNPS List 1B species, and marsh gumplant (*Grindelia hirsutula* var. *maritima*), a CNPS List 1B species, may grow in the salt marshes at the former USFWS Wildlife Refuge planning area but were considered unlikely due to its developed nature (U.S. Navy 1999). A more recent assessment of the former USFWS wildlife refuge planning area identified three federally-listed endangered plant species as having some potential to occur within habitats on that site: robust spineflower (*Chorizanthe robusta* var. *robusta*), California seablite (*Suaeda californica*), and beach layia (*Layia carnosa*). Recent botanical surveys for the entire NAS Alameda west of Main Street conducted during the target species blooming periods did not detect any presence of sensitive plant species (EDAW 2009, in prep.). Sensitive plant species are not expected to occur at NAS Alameda North Housing Area based on a lack of suitable habitat and the negative results of recent survey efforts for the greater NAS Alameda/FISC Alameda.

Table 3.7-1
Sensitive Species Potentially Inhabiting the NAS Alameda North Housing Area

Common Name	Scientific Name	Status	Habitat	Occurrence NAS Alameda (Navy 1999)	Occurrence North Housing Area
Birds					
Cooper's hawk (nesting site only)	*Accipiter cooperii*	WL	Nests primarily in deciduous riparian forests. May also occupy dense canopied forests from gray pine-oak woodland to ponderosa pine. Forages in open woodlands. Occurs throughout the Bay Area.	N/A	P – nesting and foraging
Burrowing owl	*Athene cunicularia hypugea*	CSC	Open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Occurs in lowlands throughout California.	C	P – foraging and potential for burrow habitat
Northern harrier	*Circus cyaneus*	CSC	Nests and forages in grasslands and agricultural fields. Nests on ground in shrubby vegetation, dense grass, or crops such as wheat and barley, often at the edge of marshes.	C	P – foraging only
White-tailed kite (nesting sites)	*Elanus leucurus*	FP	Inhabits agricultural areas, low rolling foothills, valley margins with scattered oaks and river bottomlands, or marshes adjacent to deciduous woodlands. Prefers open grasslands, meadows, marshes, and agricultural fields for foraging. Occurs throughout the Bay Area.	N/A	P – nesting and foraging
California horned lark	*Eremophila alpestris actia*	WL	Nests and forages on ground in open grassland. Often found in agricultural areas. Will nest on bare ground or among sparse vegetation. Known from regions throughout the Bay Area.	C	P – foraging only
Saltmarsh common yellowthroat	*Geothlypis trichas sinuosa*	CSC	Known throughout the Bay Area from Napa to Santa Cruz Counties. Nests in freshwater marshes in the spring and summer and moves into tidal sloughs and channels during the winter. Requires contiguous freshwater and salt water marsh habitats.	P	U – no suitable nesting habitat

Common Name	Scientific Name	Status	Habitat	Occurrence NAS Alameda (Navy 1999)	Occurrence North Housing Area
Merlin	*Falco columbarius*	WL	Winters throughout the western United States in open grasslands and woodlands, often along coasts near concentrations of shorebirds, which it feeds on in addition to small mammals and insects. Does not breed in California.	CO	P – foraging only
American peregrine falcon (nesting)	*Falco peregrinus anatum*	SE; FP	Nests and roosts on protected ledges of high cliffs and bridges, usually adjacent to lakes, rivers, or marshes. Permanent resident in the North and South Coast Ranges. Winters in the Central Valley southward through the Transverse and Peninsular Ranges. Feeds almost exclusively on birds. Known to breed under bridges and on tall buildings in urban locations – San Francisco, San Jose, and Redwood Shores.	CO	P – dispersal and low potential for foraging
Loggerhead shrike	*Lanius ludovicianus*	CSC	Nests in woodland and scrub habitats at margins of open grasslands. Often uses lookout perches such as fence posts. Resident and winter visitor in lowlands and foothills throughout California.	C	P – nesting and foraging
Western gull (nesting colonies)	*Larus occidentalis*	S*	California coastal; casual inland	C	P – foraging only
Alameda song sparrow	*Melospiza melodia pusillula*	CSC	Occurs only along the southern and eastern fringes of the San Francisco Bay. Inhabits salt marsh habitats with dense vegetation, and upland habitats for refugia. Known from suitable salt marsh habitats on Alameda Island.	C	U – no suitable nesting habitat
Allen's hummingbird	*Selasphorus sasin*	CNDDB	Breeds throughout coastal California south to Santa Barbara. Chaparral, thickets, brushy hillsides, open coniferous woodlands, and gardens near the coast, often in ravines and canyons. Nests on twigs or forks of trees or shrubs, sometimes on stalks of plants, among vines, or occasionally in buildings.	N/A	P – nesting and foraging

Common Name	Scientific Name	Status	Habitat	Occurrence NAS Alameda (Navy 1999)	Occurrence North Housing Area
Mammals					
Greater western mastiff bat	*Eumops perotis*	CSC	Roosts on or in buildings, crevices in cliffs, in trees, and in tunnels.	U	P
Western red bat	*Lasiurus blossevillii*	CSC	From Shasta County south to the Mexico, west of the Sierra Nevada/Cascade crest and deserts. The winter range includes western lowlands and coastal regions south of San Francisco Bay. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests.	N/A	P
Hoary bat	*Lasiurus cinereus*	CNDDB	Found throughout California. Habitats suitable for bearing young include all woodlands and forests with medium to large-size trees and dense foliage.	N/A	P
Long-eared myotis bat	*Myotis evotis*	CNDDB	Inhabits thinly forested areas around buildings or trees. Occasionally found in caves. Does not occur in large colonies. Distributed throughout the western U.S.	N/A	P
Fringed myotis bat	*Myotis thysanodes*	CNDDB	Roosts in colonies in caves and attics of old buildings. Distributed throughout the western U.S. and into Mexico. Most frequent in coastal and montane forests and around mountain meadows.	N/A	P
Long-legged myotis bat	*Myotis volans*	CNDDB	Roosts colonially in buildings, small pockets and crevices in rock ledges, and exfoliating tree bark and hollows within snags. Distributed throughout the western U.S., Mexico, and Canada.	N/A	P
Townsend's western big-eared bat	*Corynorhinus (Plecotus) townsendii townsendii*	CNDDB	Caves, mine tunnels, and buildings for roosts.	U	P
Alameda island mole	*Scapanus latimanus parvus*	CSC	Only known from Alameda Island. Found in a variety of habitats, especially annual and perennial grasslands. Prefers moist, friable soils. Avoids flooded soils.	N/A	P

Status: State Endangered (SE); Fully Protected (FP); California Species of Special Concern (CSC); CDFG Watch List (WL); Tracked by the CNDDB; CEQA consideration (S*).
Occurrence at NAS Alameda or NAS North Housing Area: Confirmed (C); Confirmed Occasional (CO); Possible (P); Unlikely (U).

Sensitive Animals

The 1999 FEIS identified 14 sensitive animal species as occurring at NAS Alameda/FISC Alameda and 13 additional species as having potential to occur at NAS Alameda/FISC Alameda (U.S. Navy 1999, Table 3-15). Most of the habitat for these species is within the former USFWS Wildlife Refuge planning area.

The California least tern and California brown pelican (*Pelecanus occidentalis californicus*), federally- and state-listed endangered species; and western snowy plover (*Charadrius alexandrinus nivosus*), federally-listed threatened and a California Species of Special Concern have been observed at NAS Alameda/FISC Alameda. A Steller sea lion (*Eumetopias jubatus*), a federally-listed threatened species, was seen once at NAS Alameda but has not been seen since. Several federally-listed fish, including delta smelt (*Hypomesus transpacificus*), green sturgeon (*Acipenser medirostris*), and various species of salmonids (*Oncorhynchus* sp.), have potential to occur in waters of the bay located in the vicinity of the site.

Although the marsh areas on other portions of the NAS are potentially suitable for the salt marsh harvest mouse (*Reithrodontomys raviventris*), federally- and state-listed endangered, and the salt marsh wandering shrew (*Sorex vagrans halicoetes*), a California Species of Special Concern, these species are unlikely to be present because the marsh is relatively small and isolated (U.S. Navy 1999). An eight-day trapping survey conducted in 1995 concluded that there were no salt marsh harvest mice in these wetlands (Navy 1995g). California clapper rail (*Rallus longirostris obsoletus*), a federally- and state-listed endangered species, has some potential to occur within salt marshes of the former USFWS Wildlife Refuge planning area. Because the saltmarsh habitat within the site is limited in area, isolated from other clapper rail occupied wetlands, and of low quality, potential for occurrence of breeding clapper rails is very low, although proximity to other known occurrences indicates a low potential for dispersing and foraging clapper rails (EDAW 2008).

San Francisco dusky-footed woodrat (*Neotorna fuscipes annectens*), a California Species of Special Concern, was considered in the 1999 FEIS but found to be unlikely to occur due to a lack of suitable habitat and connectivity to known populations. Although the Caspian tern (*Sterna caspia*) and the western gull have no federal or state sensitive designations, they are considered to be sensitive species because of the size of the populations that nest within the ROI. The nesting colonies of Caspian terns and

Western gulls in the West Beach Landfill Wetland are the largest such colonies in the Bay Area.

None of these species, with the exception of foraging gulls, are expected to occur at NAS Alameda North Housing Area due to a lack of suitable habitat and therefore they are not addressed further in this section. Those sensitive species with some potential to occur at NAS Alameda North Housing Area or those that were not addressed in the 1999 FEIS but are within the ROI are outlined in Table 3.7-1 and discussed below.

American Peregrine Falcon. The American peregrine falcon, a state-listed endangered species, uses NAS Alameda to forage in the grasslands and ruderal areas between the runways but nests offsite at the Bay Bridge (City of Alameda 1996) and other urban locations within the Bay Area. They utilize tall buildings for nesting such as the San Jose City Hall building, the Oracle building in Redwood Shores, and Pacific Gas and Electric building in downtown San Francisco. The falcon occasionally visits NAS Alameda (U.S. Navy 1999). Buildings on NAS North Housing Area are not tall enough to provide suitable nest sites. Peregrine falcons may occasionally disperse through the NAS North Housing Area although it is not considered high quality foraging habitat due to a lack of shorebirds and waterfowl, which are present in aquatic habitats to the west.

Burrowing Owl. Burrowing owls, California Species of Special Concern, nest in the grasslands adjacent to the West Beach Landfill Wetland. This species nests and shelters in ground squirrel burrows, and forages in grasslands as well as ruderal and disturbed habitats. They prefer short vegetation such as that found within the ruderal and landscaped portions of the property. Ground squirrels were observed at NAS North Housing Area during the site visit; although no burrows were documented, the open grassy areas provide potential foraging opportunities.

Other Birds. Northern harrier, a California Species of Special Concern, nests in the West Beach Landfill Wetland and forages in both salt marsh areas and the adjacent grasslands. This species is not expected to nest on the NAS North Housing Area, although it may forage onsite. Other birds that are considered California Species of Special Concern or CDFG Watch List Species that have been observed foraging within the ROI of NAS Alameda/FISC Alameda (U.S. Navy 1999), and may forage at NAS North Housing Area, include merlin (*Falco columbarius*), California horned lark (*Eremophila alpestris*), and loggerhead shrike (*Lanius ludovicianus*).

Large ornamental trees, grassy areas, and buildings onsite provide potential nesting opportunities for several common (although protected under the MBTA) and some sensitive avian species, including loggerhead shrike. Raptors such as Cooper's hawk (*Accipiter cooperii*), a CDFG Watch List species, and white-tailed kite, a California Fully Protected Species, commonly nest in suburban parts of the Bay Area. Pine and acacia trees onsite are well developed with adequate limbs and canopy for nesting. Common rodent's present onsite provide an adequate prey base.

Allen's hummingbird (*Selasphorus sasin*), a species tracked by the CNDDB, has potential to nest within landscaped vegetation found throughout the site. Alameda song sparrow (*Melospiza melodia pusillula*) and saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), both California Species of Special Concern, are songbirds that have been documented nesting in marshes in the vicinity of the site (CDFG 2007). However, they are not expected to nest at NAS North Housing Area due to a lack of dense marsh or riparian vegetation.

Roosting Bats. The 1999 FEIS found no suitable habitat for the Townsend's western big-eared bat (*Corynorhinus* [*Plecotus*] *townsendii townsendii*), a species tracked by the CNDDB, and greater western mastiff bat (*Eumops perotis*), a California Species of Special Concern, within the NAS Alameda/FISC Alameda based on bat surveys conducted in late 1995 to early 1996. Given the time that has passed since the previous surveys and the presence of potential habitat for these species, as well as five other sensitive bats (Table 3.7-1); they have some potential to occur onsite. There are several uninhabited buildings within NAS North Housing Area that could provide adequate day and night roosting habitat in gaps beneath roof tiles or exterior trim, or within the structures themselves. The site also contains scattered mature trees, which could provide roosting habitat within the canopy, cavities in the trees, or beneath loose bark. Foraging habitat is available throughout the area, wherever insects may congregate, such as near nighttime light sources.

Alameda Island Mole. The Alameda Island mole, (*Scapanus latimanus parvus*), a California Species of Special Concern, is only known from Alameda Island. It is found in a variety of habitats, especially annual and perennial grasslands. This species prefers moist, friable soils and avoids flooded soils. There are several occurrences on the island including one that is located approximately 0.25 mile (0.4 kilometer) to the southwest (CDFG 2007). The most recent occurrence is from the late 1950s, although the

population is presumed to be extant. The open grassy areas at NAS North Housing Area may provide habitat for this species.

3.7.4 Sensitive Habitats

Wetlands are important because they perform significant biological functions, such as providing nesting, breeding, foraging, and spawning habitat for a variety of resident and migratory animal species (U.S. Navy 1999). Wetlands are defined by the COE regulations as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33 C.F.R. 328.3[b]).

There are no wetland areas or other sensitive habitats present on NAS Alameda North Housing Area. All lands are either developed or landscaped and no indication of wetland hydrology, soils, or vegetation was found during the recent site survey. Approximately 40 feet (12 meters) from the northern boundary, a narrow drainage characterized by marsh vegetation runs parallel to the site. This feature is located within a disturbed industrial area and is not within the limits of the subject property.

3.7.5 Regulatory Considerations

Federal Endangered Species Act

Federal law directs that all federal agencies and departments use their authority to preserve endangered and threatened species under the guidance of the Endangered Species Act, 16 U.S.C. § 55 1531-1544 (U.S. Navy 1999). The Federal Endangered Species Act requires that the USFWS issue a permit prior to actions that would result in killing, harming, or harassing a federally-listed endangered or threatened species. The process under Section 7 of the Endangered Species Act is for actions in which a federal agency is involved and is a permit process under Section 10a for state and local agencies and individuals. Federal agencies are required to consult with the USFWS (or National Marine Fisheries Service for marine species) prior to undertaking actions that may affect endangered or threatened species. A federal agency is required to obtain a Biological Opinion (BO) from the USFWS on whether its actions may jeopardize the continued existence of any threatened or endangered species.

The Navy has determined that redevelopment actions within the North Housing Parcel would not affect federally listed species. In a letter dated June 8, 2009, the Navy requested initiation of formal Section 7 consultation and submitted a programmatic biological assessment (BA) pursuant to the Federal Endangered Species Act for the proposed Department of Veterans Affairs (VA) project-specific action, and the proposed Navy programmatic action in order to facilitate the disposal and redevelopment of the former NAS Alameda. The BA provided a description of the actions being taken and a description of the specific areas that may be affected. Reuse within the programmatic action area is described by the Alameda Point Specific Plan (March 2009). The BA focuses on the California least tern, California brown pelican, and the western snowy plover. Land-based activities, such as housing development, would primarily have an impact on the California least tern. The BA also addresses various marine and anadromous species (salmonids and green sturgeon). The BA did not include the North Housing Parcel because it is part of a reuse planning process that is separate from the efforts conducted under the Alameda Point Specific Plan.

Previous consultations and current analysis indicate that the North Housing Parcel is far-removed from the California least tern nesting colony at NAS Alameda. For example, in the 1999 BO, predator management was the primary issue addressed by the U.S. Fish and Wildlife Service activities. In that BO, predator management is required in areas west of Main Street. Proposed reuse activities east of Main Street would not have an effect on the California least tern or other listed species.

The ongoing Section 7 consultations being conducted for reuse activities for the rest of the surplus property provide a means for the conservation of listed species for reuse activities related to land-based construction west of Main Street and in-water construction/dredging.

Clean Water Act (CWA)

The COE regulates discharges of dredged or fill material into wetlands under Section 404 of the CWA, 33 U.S.C. § 1344 (U.S. Navy 1999). Projects that include potential dredge or fill impacts to wetlands must be reviewed by the COE and USEPA under the CWA. Any filling of wetlands, such as the drainage north of the NAS Alameda Housing Area, would require a permit from the COE. COE jurisdictional wetlands are absent from lands within the NAS Alameda North Housing Area.

Executive Order 11990

Executive Order 11990 on Protection of Wetlands, EO No. 11990, 3 C.F.R. 121 (1978), reprinted in 42 U.S.C. § 4321 note at 466-68 (West 1994) requires that federal agencies, to the extent permitted by law, avoid construction in wetlands unless no practicable alternative to the construction exists and that all practicable measures to minimize harm to wetlands, including opportunities for public review of plans or proposals are provided. It further requires that any disposal to non-federal public or private parties of properties containing wetlands shall reference, in the conveyance, uses that are restricted under identified federal, state, or local wetland regulations.

Marine Mammal Protection Act

The Marine Mammal Protection Act of 1972, 16 U.S.C. § 1361-1421h (West 1985 & Supp. 1998) protects marine mammals and establishes a commission. Under this Act a moratorium was imposed on the taking and importing of marine mammals, except for scientific research and display, taking incidental to commercial fishing operations, and taking covered by international agreement. Given that the site is approximately 120 feet (12 meters) from the waters of the Oakland Inner Harbor, the Act would apply to activities that affect marine mammals at NAS Alameda North Housing Area, such as increased human presence.

California Endangered Species Act (CESA)

California provides procedures similar to the Federal Endangered Species Act for non-federal projects under the CESA, Cal. Fish and Game Code § 2050-2116 (1998). For example, the CDFG can adopt a Federal Biological Opinion as a State Biological Opinion under Cal. Fish and Game Code 2095. Upon conveyance of NAS Alameda/FISC Alameda and NAS Alameda North Housing Area, property out of federal ownership, it would be subject to these state regulations. Peregrine falcons, which have some potential to disperse through the NAS Alameda Housing Area, are protected under CESA.

CDFG Wetlands Policies

The CDFG has the authority to reach an agreement with an individual proposing to affect intermittent or permanent streams and other wetlands, pursuant to Section 1603

of the California Fish and Game Code. The CDFG generally evaluates the information gathered during preparation of an EA document and attempts to satisfy its concerns during the CEQA process. In accordance with its policy of no net loss of wetland habitat, the CDFG encourages completion of a streambed alteration agreement, which includes a mitigation program for impacts to all wetlands, regardless of acreage. Aquatic features are absent from the NAS Alameda Housing Area, however the drainage to the north of the property boundary may be subject to CDFG regulation.

3.8 GEOLOGY AND SOILS

This section describes the overall geological resources and soils within the project boundary and surrounding areas within NAS Alameda/FISC Alameda. Surrounding geologic features are described to provide a context for the discussion of geology at the project site because some geologic conditions and processes (such as movement along faults) may occur outside project boundary but may impact the site.

3.8.1 Geology and Faults

NAS Alameda/FISC Alameda

NAS Alameda/FISC Alameda is constructed on fill on tidelands west of Alameda Island in the eastern region of the San Francisco Bay basin. The land surface is low lying and nearly flat. Elevations are less than 15 feet (5 meters) above mean sea level (AMSL). The dominant geological processes that have shaped the landscape in the vicinity of NAS Alameda/FISC Alameda are uplift and erosion of the East Bay hills, subsidence of the San Francisco Bay basin, and faulting associated with the Hayward Fault and other active faults of the San Andreas Fault system**.**

North Housing Parcel

The site is located along the eastern San Francisco Bay (East Bay Margin), which occupies a depression between two uplifted areas: the Berkeley Hills, located approximately 10 miles (16 kilometers) east of the site, and the Montara Mountains (and others) located to the west. The depression and uplifted areas were formed by two sub-parallel, active faults: the San Andreas Fault west of San Francisco Bay and the Hayward Fault east of San Francisco Bay. The San Andreas Fault is located approximately 12 miles (19 kilometers) west of the site, and the Hayward Fault is located approximately 5 miles (8 kilometers) east of the site (Figure 3.8-1). Two geological units are present within the shallow water-bearing zone: shallow fill found in the uppermost 10 to 20 feet (3 to 6 meters) below ground surface (bgs) and the underlying native sediment material that includes the Bay Mud and Merritt Sand Formation (U.S. Navy 2007b).

Source: Tetra Tech 2009, ESRI 2009

1.5 0.75 0 1.5 Miles

Scale: 1 = 126,720; 1 inch = 2 mile(s)

Figure 3.8-1
Faults

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3.8.2 Soils

NAS Alameda/FISC Alameda

Soils at NAS Alameda/FISC Alameda consist mainly of nonnative soils developed on fill materials. These soils include Urban Land, Xerorthents, and Xeropsamments (Welch 1981). These are all disturbed, mixed soils with variable properties. Xerorthents, which are found in a small area north of Atlantic Avenue, have the most severe limitations for development, due to their high shrink-swell potential, low strength, and poor drainage. Urban Land refers to fill material that is covered by buildings or roads. The fill can have a wide range of characteristics, depending on its origin. Most of the land east of the Northwest Territories planning area is classified as Urban Land. The western part of the installation is underlain by Xeropsamments, which consists of sandy material that was dredged from old beach areas. These soils are very permeable. The shallow water table is the primary limiting factor for development on these soils (U.S. Navy 2007b).

North Housing Parcel

Surface and near-surface soil at the site consists of artificial fill placed during the historical filling of the tidal marshlands, which occurred from approximately 1900 to 1930. The fill is present in the northern portion of the site from land surface to approximately 10 feet (3 meters) bgs and in the southern portion from land surface to approximately 20 feet (6 meters) bgs. The site was formerly marshland and San Francisco Bay intertidal area (the northern portion of the site previously contained an outcropping of land). Affected groundwater is located primarily within the artificial fill. No archaeological or historical resources are associated with the artificial fill (U.S. Navy 2008).

Fill material at the site is a heterogeneous, laterally discontinuous mixture of poorly graded, fine- to medium-grained sand, clay, and silt mixed with some construction debris and organic material. The artificial fill materials are believed to be dredged spoils from the tidal flats in the surrounding San Francisco Bay and the Oakland Inner Harbor. The thickness of the fill is probably most influenced by the presence of historical tidal channels that once transected the tidal flats. A layer with high organic content, called the “Marsh Crust,” typically marks the top of the Bay Mud throughout the site, and is typically encountered between 18 and 20 feet (5 and 6 meters) bgs (U.S. Navy 2007b). The Marsh Crust is a layer of contaminated sediment that was formed by the discharge

of gas plant and refinery waste from two gas plants and an oil refinery. This waste migrated over much of the surface of the surrounding marshlands and was deposited through tidal actions under what would later become FISC Alameda Annex (FISCA) and the eastern portion of Alameda Point.

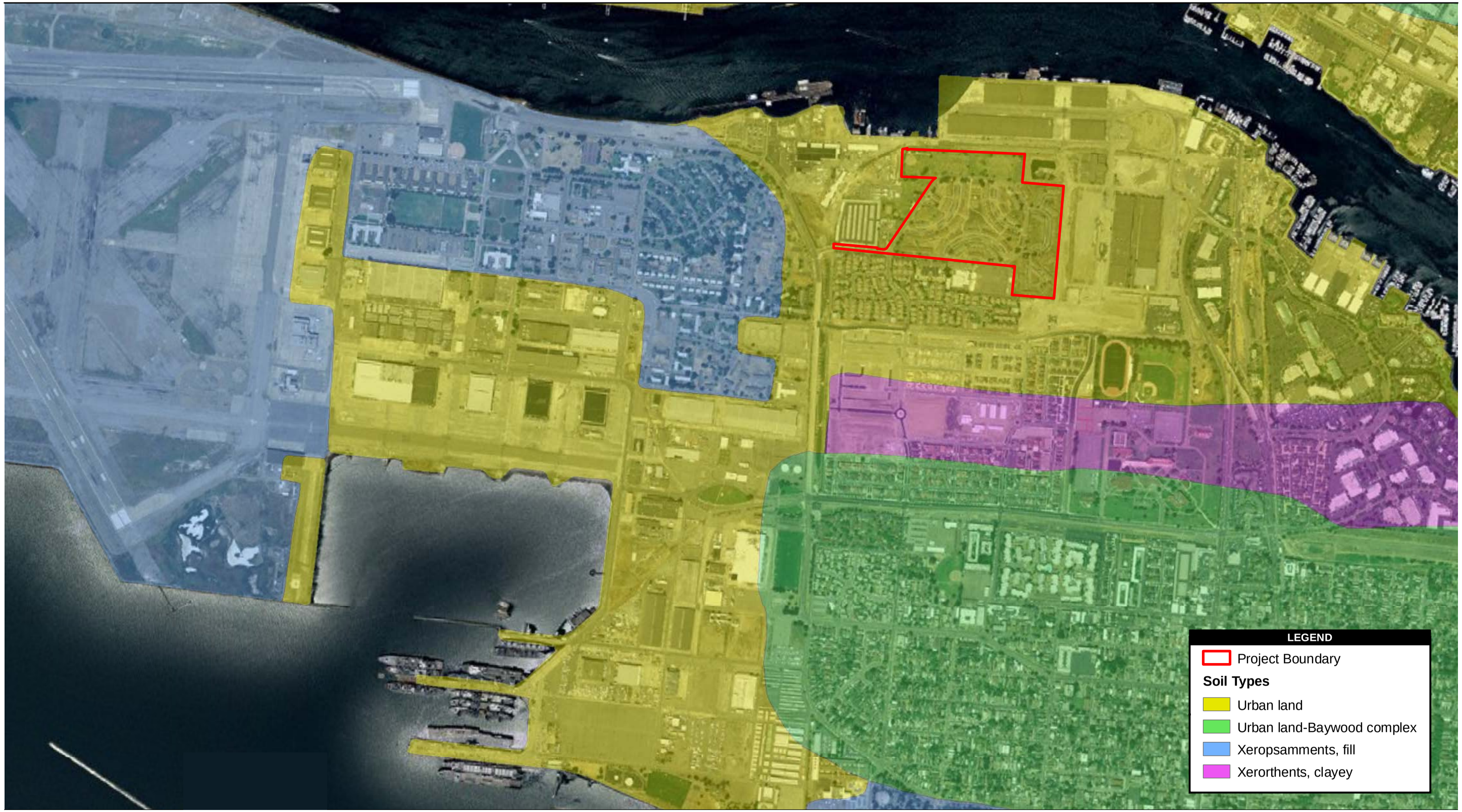
The Bay Mud layer underlying the site fill material ranges in thickness from 25 to 100 feet (8 to 30 meters) (U.S. Navy 2007b) and consists of recent sediment deposited in an estuarine environment. The Bay Mud is thickest at the west side of the site and thins to approximately 25 feet (8 meters) at the northeastern and southeastern regions of the site (PRC 1993). The Bay Mud generally consists of gray to black, medium- to high-plasticity silty clay with laterally discontinuous, poorly graded silty and clayey sand layers. Though thin lenses of fine sand have also been observed, no extensive sand layers have been observed within the Bay Mud.

The Merritt Sand Formation underlies the Bay Mud throughout the site. The Merritt Sand Formation is composed of brown, fine- to medium-grained, poorly graded sand and is generally laterally continuous throughout the site, except where it is bisected by a major paleochannel filled with thicker deposits of the Bay Mud. The Merritt Sand Formation is found below the Bay Mud at depths as great as 135 feet (41 meters) bgs across Alameda Point; however, the thickness of the formation is unknown beneath the site (Figure 3.8-2).

3.8.3 Regulatory Considerations

State of California

The California Building Code (CBC) (U.S. Navy 1999), contains the enforceable state building standards. The City of Alameda Department of Public Works is responsible for enforcing these standards within the City. The CBC (§ 1629A.2) requires that every structure have sufficient ductility and strength to undergo the displacement caused by the “upper bound earthquake” motion without collapse. The upper bound earthquake ground motion is defined as the motion having a 10 percent probability of being exceeded in a 100-year period or maximum level of motion that may ever be expected at the building site within the known geological framework. The CBC standards would be required to be met after the transfer is complete.



Source: Tetra Tech 2009, ESRI 2009

1,000 500 0 1,000 Feet

Scale: 1 = 12,000; 1 inch = 1,000 feet

Figure 3.8-2
Soil Types

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Under Alquist-Priolo Earthquake Fault Zoning Act, Cal. Pub. Res. Code § 2622, the California Division of Mines and Geology has delineated seismic zones that are deemed to be "sufficiently active and well-defined as to constitute a potential hazard to structures from surface faulting or fault creep." The state geologist is also required to continually review new geologic and seismic data and to revise the earthquake fault zones or to delineate new zones based on new information.

The Seismic Hazards Mapping Act (SHMA) of 1990 directs the Department of Conservation, California Geological Survey to identify and map areas prone to liquefaction, earthquake-induced landslides and amplified ground shaking. The purpose of the SHMA is to minimize loss of life and property through the identification, evaluation, and mitigation of seismic hazards. The Seismic Hazards Mapping Act requires that site-specific geotechnical investigations be conducted within the Zones of Required Investigation to identify and evaluate seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy.

City of Alameda

The City of Alameda has adopted provisions in Chapter 33 of the Uniform Building Code (UBC) (City of Alameda 1996) for grading and excavation activities where the existing or resulting slope will exceed 20 percent or where more than 5 cubic yards (4 cubic meters) of soil are to be disturbed. The grading permit application requires a site map and grading plan, including a drainage plan, a soils report prepared by a registered civil engineer, and mitigation measures to prevent structural expansive soils. The grading plan must also include damage that may be caused by an action. The Health and Safety Element of the City of Alameda General Plan (City of Alameda 1991) requires that a soils and geologic report be submitted to the Department of Public Works prior to issuing all grading and building permits to evaluate the potential for lateral spreading, liquefaction, differential settlement, and other types of ground failures. It requires all structures of three or more stories to be supported on pile foundations that penetrate Bay Mud deposits and are anchored in firm noncompressible materials, unless geotechnical findings indicate a more appropriate design. It also provides for the identification and evaluation of existing structural hazards and abatement of those hazards to acceptable levels of risk.

The City of Alameda excavation ordinance No. 2824 (Marsh Crust Ordinance) establishes a permitting process to help ensure that any excavation deep enough to potentially encounter Marsh Crust is conducted so as to protect public health and the environment.

3.9 WATER RESOURCES

This section describes water resources issues at the NAS Alameda North Housing Area; including surface and ground water quality, drainage issues, and flood hazards. Water quality issues can result from polluted runoff, poorly managed construction practices, exposure to hazardous substances, inadequate management of contaminated ground water, and the cumulative effects caused by the discharge of these types of pollutants into surrounding water bodies.

Drainage is addressed in this section as it affects flood hazards associated with high tides, inadequate drainage, tsunami runup, and rising sea levels.

Areas immediately adjacent to the project, underlying ground water supplies, and the Oakland Inner Harbor to the north are potentially affected by development activities at the project site.

3.9.1 Surface Water

The northern boundary of the North Housing Area lies just south of the Oakland Inner Harbor Channel, at a distance ranging from 130 feet (40 meters) to 750 feet (230 meters) from the waterfront. The site topography is flat, and the shorelines are protected in most areas by breakwaters or other shoreline protection, such as dikes or seawalls. Drainage from the site is via a stormwater drainage system consisting of drains, catch basins, and discharge outfalls to the Oakland Inner Harbor and San Francisco Bay (U.S. Navy 1999; Cook 2009). Average annual precipitation in the project area is about 23 inches (58 centimeters), most of which falls from October through April (City of Alameda 2006b). There are no natural channels within the site boundaries.

Since 1999, new drainage infrastructure has been constructed to address flooding that would occur within the low-lying area north of Singleton Avenue and east of Main Street. This infrastructure includes a pump station located approximately 400 feet (120 meters) west of the Tinker Avenue/5th Street intersection, a water quality treatment basin located just outside the northwest corner of the North Housing Parcel boundary, and a 72-inch storm main trunk line and stormwater outfall (City of Alameda 2006b).

The area within the North Housing Parcel boundary is not included in the Federal Emergency Management Agency's (FEMA) regional flooding hazard mapping program,

so site-specific flood data is not available for the site. However, the FEMA Flood Insurance Rate Map (FIRM) was recently revised to include the area surrounding the project by a Letter of Map Revision in December 2005. The recently-delineated FEMA flood hazard zones reflect updated topographic Information and the effects of the new pump station and treatment basin. The FIRM shows that the area immediately north (Mitchell Avenue extension corridor) and west (northern Main Street and area north of the intersection of Main Street and Singleton Avenue) of the project site are within the 100- year flood hazard zone. The base flood elevation in these areas was determined to be 7 feet (2.1 meters) AMSL (U.S. Navy 1999).

Floods caused by waves, tides, and tsunami runup would be exacerbated by rising sea levels. Flood data adjusted for sea level rise is unavailable for the North Housing Parcel, as the area within the project boundary is not included in the FEMA's regional flooding hazard mapping program. At this time, the City of Alameda has no adopted, official policy concerning sea rise from global warming.

3.9.2 Groundwater

Geotechnical investigations of the area surrounding the project indicate shallow groundwater ranging from 4 to 8 feet (1.2 to 2.4 meters) bgs, approximately between mean sea level and mean high tide. Shallow groundwater in this upper zone is brackish (City of Alameda 2006b).

In September 2008, the Navy began a two-year groundwater treatment program at three locations within NAS Alameda. A Final ROD documents the remedy for OU-5/IR-02 groundwater and summarizes results of the remedial investigation/feasibility study. One of these areas is within the North Housing Parcel—in the southeast, beneath Kollmann Circle. Lower-level contamination will be monitored and is expected to biodegrade naturally within about 10 years. Until then, land use restrictions forbid both use of groundwater and interference with cleanup operations. Vapor intrusion into indoor air has been shown not to be a problem at the North Housing Parcel. The Navy's groundwater cleanup efforts are compatible with residential use of the property and should be minimally disruptive. For more information regarding groundwater contamination, see the Hazardous Materials and Waste sections (3.13 and 4.13).

The primary drinking water aquifer underlying the project site is the Alameda Formation. The top of the aquifer is found at depths of 100 to 200 feet (30 to 60 meters) bgs.

Although local groundwater supplies were used for municipal drinking and industrial supply prior to the 1920s, the groundwater from the Alameda Formation is not now considered suitable for drinking due to its vulnerability to contaminants, low yields, and high total dissolved solids levels (City of Alameda 2006b).

3.9.3 Regulatory Considerations

The CWA (33 U.S.C. § 1251·1387) is implemented locally by the San Francisco Bay Regional Water Quality Control Board (RWQCB), in part through its National Pollutant Discharge Elimination System (NPDES) permits. The NPDES permit process allows the RWQCB to establish requirements for discharges of potential water pollutants from point sources, such as “end of pipe” discharges, and from nonpoint sources, such as stormwater runoff (U.S. Navy 1999).

The CWA is the primary federal law regulating water quality in the U.S. and forms the basis for several state and local laws throughout the country. Section 303(d) of the federal CWA requires states to identity waterbodies that do not meet water quality standards and are not supporting their beneficial uses (City of Alameda 2006b). Two segments of the Oakland Inner Harbor are listed on the Section 303(d) List of Impaired Waterbodies, the Oakland Inner Harbor Pacific Dry-dock Yard I Site and the Oakland Inner Harbor Fruitvale Site. Stormwater runoff from the NAS Alameda North Housing Parcel does not drain to either segment, and no tributaries run through the project.

The Phase I NPDES stormwater program regulated stormwater discharges from industrial facilities, large and medium-sized municipal separate storm sewer systems (those serving more than 100,000 persons), and construction sites that disturb five or more acres of land. Pursuant to the Phase II NPDES Final Rule in December 1999, discharges of stormwater associated with construction activities that result in the disturbance of equal to or greater than one acre of land must also apply for coverage under the State Water Resources Control Board’s statewide General Construction Activities Stormwater Permit (General Construction Permit). Effective August 15, 2006, the disturbance area changed from 1 acre (0.4 hectares) to 10,000 square feet (3,048 square meters). NPDES General Construction Permit Requirements require that the project sponsor submit a site-specific Stormwater Pollution Prevention Plan (SWPPP) to minimize the discharge of pollutants from the site during construction.

The City of Alameda's Stormwater Management and Discharge Control Program includes requirements set forth by the Alameda County Urban Runoff Clean Water Program, which, in turn, is required to comply with the NPDES permit (No. CA 0029831). These programs address both construction and operational stormwater quality impacts. Required measures include implementation of the City's best management practices (BMPs) for both construction and post-construction stormwater runoff consistent with the City's Stormwater Management and Discharge Control Program. This includes applying the City's standard stormwater conditions of approval as applicable to all proposed redevelopment at the site.

The San Francisco Bay Water Quality Control Plan (Basin Plan) is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the San Francisco Bay region. The Basin Plan identifies the beneficial uses of surface water and groundwater within its region. Although the beneficial uses of the Oakland Inner Harbor have not been specified, under the "tributary rule," (which provides that water quality standards for specific waterbodies apply upstream to tributaries for which no site-specific standards have been adopted) the beneficial uses of the Lower San Francisco Bay can be applied to the Oakland Inner Harbor. Thus, the beneficial uses of the Oakland Inner Harbor include: ocean, commercial, and sport fishing; estuarine habitat; industrial service supply; fish migration; navigation; preservation of rare and endangered species; water contact recreation; noncontact water recreation; shell fish harvesting; and wildlife habitat (City of Alameda 2006b).

Flood protection for non-federal lands is administered by FEMA under the National Flood Insurance Program (NFIP). Under this program, local communities must implement floodplain management measures to reduce flood risks to new development. These measures are developed on the basis of flood insurance studies (FIS) and FIRMs. Because NAS Alameda and FISC Alameda are federal enclaves, subject to federal and not state regulatory law, they were not covered under the NFIP. The sites would be placed under the NFIP when the property is conveyed from federal ownership (U.S. Navy 1999).

In addition, the Floodplain Management Executive Order, EO No. 11988, 3 C.F.R. 117 (1978), *reprinted in* 42 U.S.C. § 4321 note at 464-66 (U.S. Navy 1999), requires that, when property is proposed for disposal to non-federal entities, the federal agency shall reference in the conveyance those uses that are restricted under identified federal,

state, or local floodplain regulations; attach other appropriate restrictions to the uses of properties by the grantee or purchaser and any successors, except where prohibited by law; or withhold such properties from conveyance. The Navy will also evaluate whether a proposed action would occur in a floodplain and consider alternatives to avoid adverse effects and incompatible development in the floodplain (U.S. Navy 1999).

The most recent FIS and associated FIRMs prepared for the City do not include analysis of flood hazards within the North Housing Parcel boundaries. The City's General Plan provides guidance regarding floodplain protection, coordination with San Francisco Bay Conservation and Development Commission on potential sea level rise, flood proofing, runoff reduction, and maintaining drainage facilities (U.S. Navy 1999).

3.10 TRAFFIC AND CIRCULATION

The purpose of this study is to identify traffic impacts related to the construction of the NAS Alameda North Housing Area. The proposed action would reuse an existing North Housing Parcel site. Project features would include homeless accommodation, affordable ownership housing, and a public park. Two alternatives have been analyzed as part of this study:

Alternative A: Reuse Plan Amendment: Under this alternative, the impacts related to reuse of the site for homeless accommodations and affordable housing have been evaluated and would include construction or reconstruction of up to 437 housing units.

Alternative B: No Action: Under the No Action Alternative, no project would occur, and the current site use and network conditions would remain the same as Existing Conditions.

3.10.1 Study Area

The following study intersections were chosen for analysis based on their proximity to the project site in Alameda and anticipated traffic routes:

- Singleton Avenue and Main Street
- Stargell Avenue and Main Street
- Stargell Avenue and Mosley Avenue
- Stargell Avenue and 5th Street
- Ralph Appezzato Memorial Parkway and Main Street
- Ralph Appezzato Memorial Parkway and Mosley Avenue/3rd Street
- Ralph Appezzato Memorial Parkway and Coral Sea Street
- Ralph Appezzato Memorial Parkway and 5th Street
- Ralph Appezzato Memorial Parkway and West Campus Drive
- Atlantic Avenue and Webster Street
- Atlantic Avenue and Constitution Way
- Pacific Avenue and Main Street
- Pacific Avenue and 3rd Street

In addition, the study area includes the Posey and Webster Tubes (State Route 260) that provide access across the estuary from downtown Oakland to the west end of the main island of Alameda. This analysis is conducted for Year 2030 conditions.

3.10.2 Methodology

The 2000 Highway Capacity Manual (HCM) published by the Transportation Research Board establishes a system whereby transportation facilities are rated for their ability to process traffic volumes. The terminology "level of service" (LOS) is used to provide a "qualitative" evaluation based on certain "quantitative" calculations, which are related to empirical values. Table 3.10-1 describes the different LOSs for transportation facilities.

Table 3.10-1
LOS Criteria Based on the HCM

LOS	Description
A	Free-flow operations. Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.
B	Reasonably free flow and free-flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.
C	Speeds are at or near the free-flow speed for the segment. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.
D	Speeds begin to decline slightly with increase flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experience reduced physical and psychological comfort levels.
E	Operations at capacity. Operations at this level are volatile, because there are virtually no usable gaps in the traffic stream. Vehicles are closely spaced, leaving little room to maneuver within the traffic stream. Maneuverability within the traffic stream is extremely limited, and the level of physical and psychological comfort afforded the driver is poor.
F	Breakdown in vehicular flow.

Notes: Based on the 2000 Highway Capacity Manual

The City of Alameda General Plan Transportation Element (City of Alameda 2008c) identified LOS C as desirable, but acknowledges that conditions of LOS D or worse may be experienced at intersections during the peak commute hours in metropolitan areas.

Traffic impacts are considered to be significant if the following could result from the project implementation:

- Cause the LOS of a signalized intersection that is projected to operate at LOS D or better to degrade to LOS E or F;
- Cause the total intersection average delay at a signalized intersection that is projected to operate at LOS E or F to increase by four or more seconds;
- Contribute more than three percent to the cumulative growth in overall traffic volume at an intersection that is projected to operate at LOS E or F under the 2030 Project Scenario;
- Disrupt or interfere with existing or planned transit, bicycle, or pedestrian services and facilities or conflict with policies, plans, or programs of the City of Alameda General Plan that support alternative transportation.

3.10.3 Existing Conditions

Roadway Conditions

Main Street is classified as a Minor Street and has four lanes. It would be part of the primary access route to and from the project area. The posted speed limit along Main Street varies from 25 miles per hour to 35 miles per hour.

Singleton Avenue is classified as a Minor Street and has two lanes. It has a dashed centerline, and the posted speed limit is 25 miles per hour. Singleton Avenue provides direct access to the project area.

Stargell Avenue is classified as a Minor Street. It has a double-yellow centerline and is a designated Bike Route. Stargell Avenue would be one of the primary access routes to the project area. The posted speed limit is 25 miles per hour.

Ralph Appezzato Memorial Parkway/Atlantic Avenue is classified as a Major Street and has four lanes. Traffic is separated by a concrete median that houses the street lights. Ralph Appezzato Memorial Parkway/Atlantic Avenue is the only East-West Major Street within the project area. The posted speed limit is 35 miles per hour.

Pacific Avenue is classified as a Minor Street and has four lanes. The posted speed limit is 25 miles per hour. Parking is permitted on both sides of the street.

Mosley Avenue/3rd Street is classified as a Minor Street and is two-lanes wide. Mosley Avenue traverses through the Bayport development and provides project access from the south. Parking is permitted on both sides of the street along 3rd Street. The speed limit is 25 miles per hour.

5th Street is classified as a Minor Street and is four-lanes wide. It is separated by a double-yellow centerline and has a posted speed limit of 25 miles per hour. There are bike lanes on both sides of the street.

West Campus Drive is classified as a Minor Street and serves primarily as a driveway to the College of Alameda. The posted speed limit is 15 miles per hour.

Webster Street operates as State Route 260 and is also a Proposed Light Rail Transit Street. Webster Street is four-lanes wide and provides access to Oakland via the Webster and Posey Tubes. The speed limit along Webster ranges from 30 to 45 miles per hour.

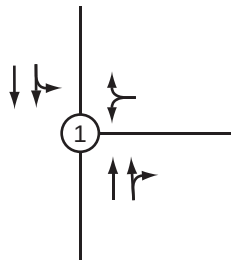
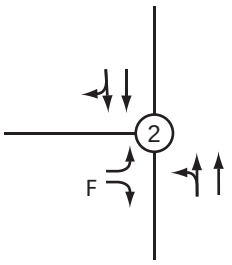
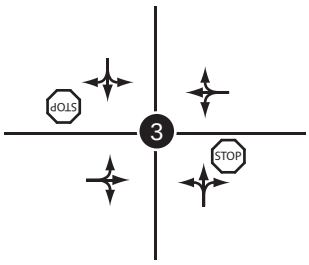
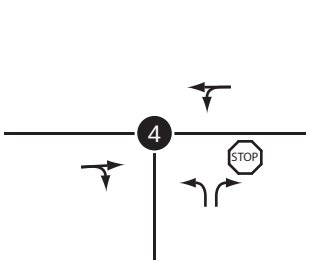
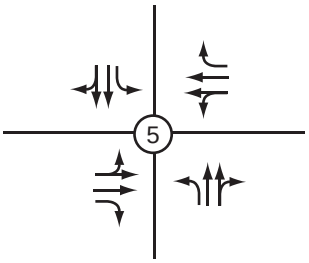
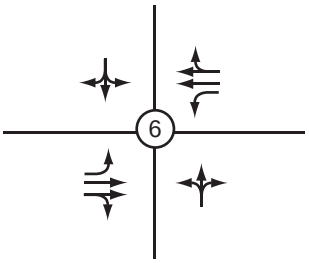
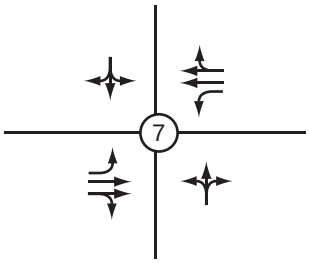
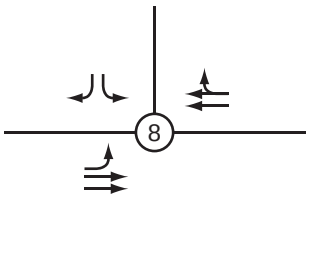
Constitution Way is classified as a Major Street and has four lanes. Traffic is separated by a landscaped median. Constitution Way also provides access to Oakland via the Webster and Posey Tubes.

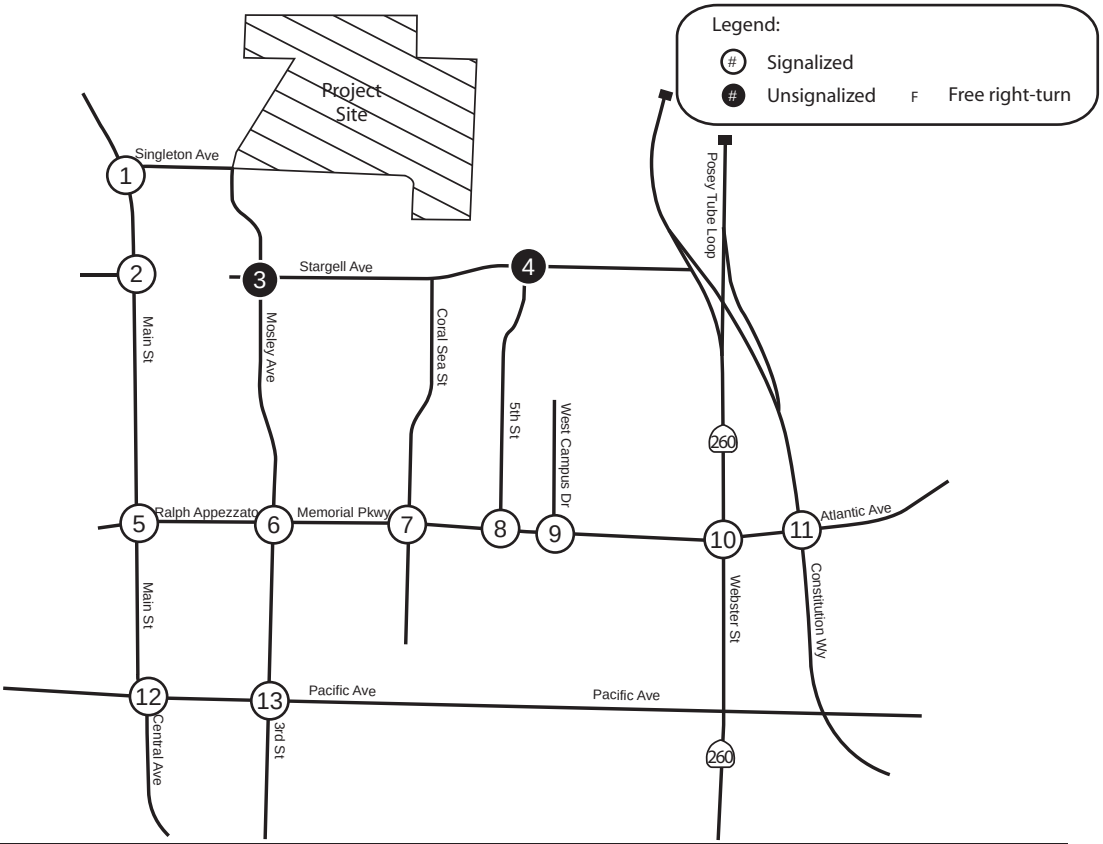
Intersection Conditions

The study area consists of two stop-controlled and eleven signalized intersections. Both stop-controlled intersections are along Stargell Avenue. The existing intersection geometrics are shown in Figures 3.10-1a and 3.10-1b.

Mass Transit

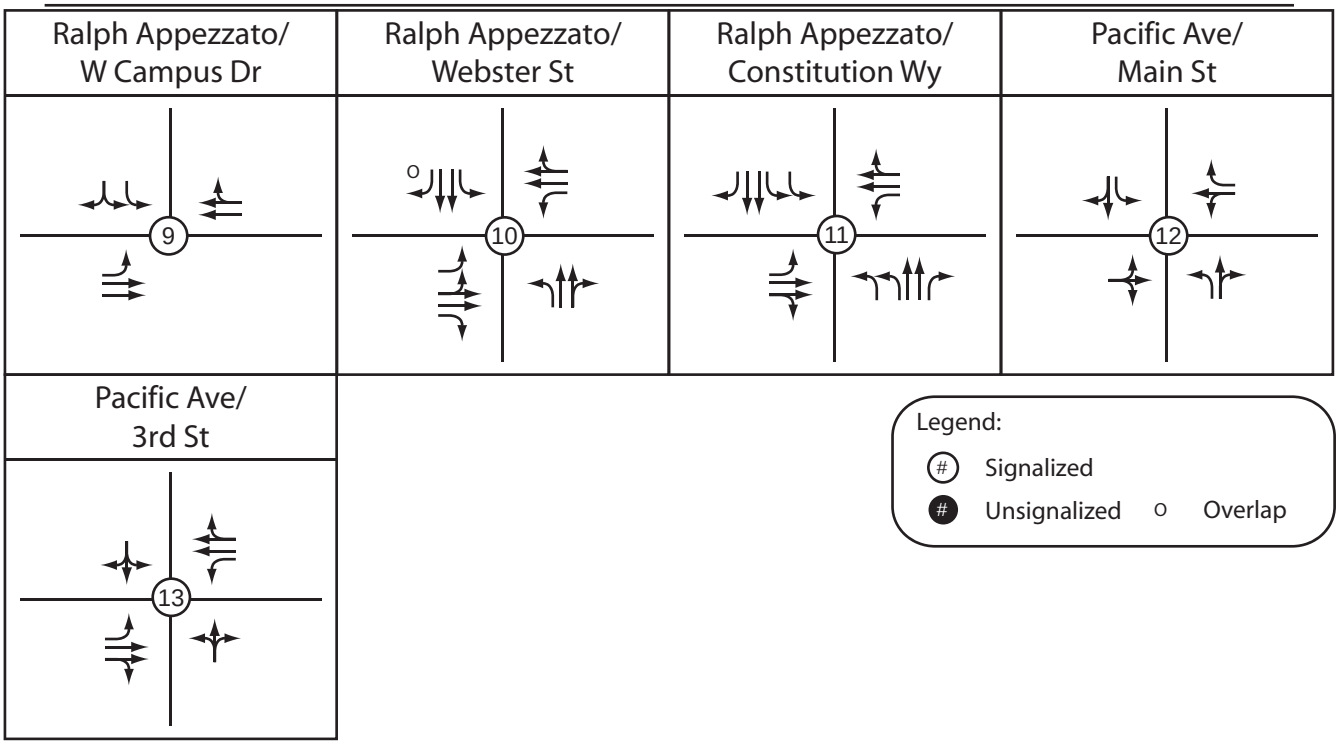
According to the 2000 Census, over 15 percent of Alameda residents currently use mass transit to get to work. Mass transit options available to Alameda residents include multiple bus routes, the Alameda/Oakland Ferry, and a shuttle service between the Harbor Bay Business Park and the Coliseum Bay Area Rapid Transit (BART) station.

Singleton Ave/ Main St	Stargell Ave/ Main St	Stargell Ave/ Mosley Ave	Stargell Ave/ 5th St
			
Ralph Appezzato/ Main St	**Ralph Appezzato/ Mosley Ave**	**Ralph Appezzato/ Coral Sea St**	**Ralph Appezzato/ 5th St**
			



NOT TO SCALE

Figure 3.10-1a
Existing Intersection Geometrics



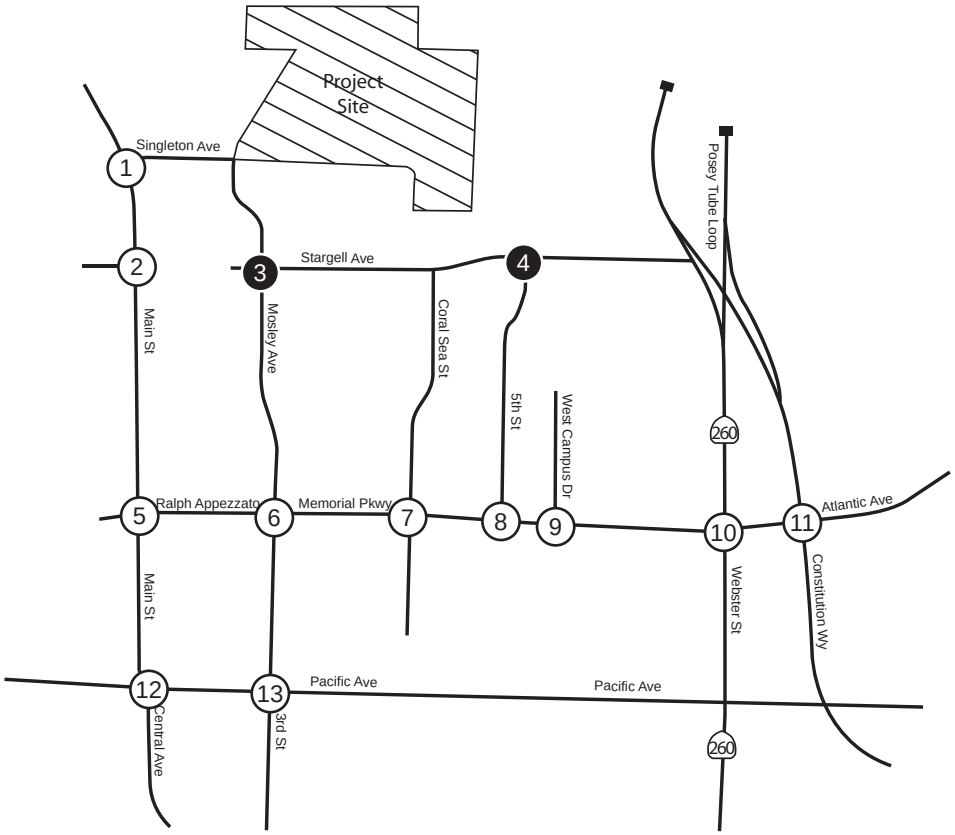


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Figure 3.10-1b
Existing Intersection Geometrics

The Alameda/Oakland Ferry provides service to Alameda, Oakland (Jack London Square), AT&T Park, the San Francisco Ferry Building, and Angel Island. Ferry service is provided seven days a week including special events ferries that operate during events at AT&T Park. Weekday operation runs between 6:10 a.m. and 8:45 p.m. with 13 ferries departing for San Francisco and 12 ferries arriving from San Francisco every weekday. The ferry is a viable transit option for the project, because the ferry docks within 0.25-mile (0.4-kilometers) of the project area.

The nearest bus route, Bus Route 63, has a bus stop located within 0.25-mile (0.4-kilometers) of the project area at the intersection of Main Street and Singleton Avenue. Route 63 serves the Fruitvale BART station, the majority of Alameda Island, and downtown Oakland. In serving these locations, Route 63 provides access to major regional transit.

Other transit options include Bus routes 51, 63, 314, 851, O, and W, all of which can be accessed within 1-mile (0.6-kilometer) of the project area at the intersection of Ralph Appezzato Memorial Parkway and Webster Street. These transit routes could be accessed from the project area via Route 63 or by foot.

Figure 3.10-2 illustrates bus routes near the project site.

Traffic Volumes

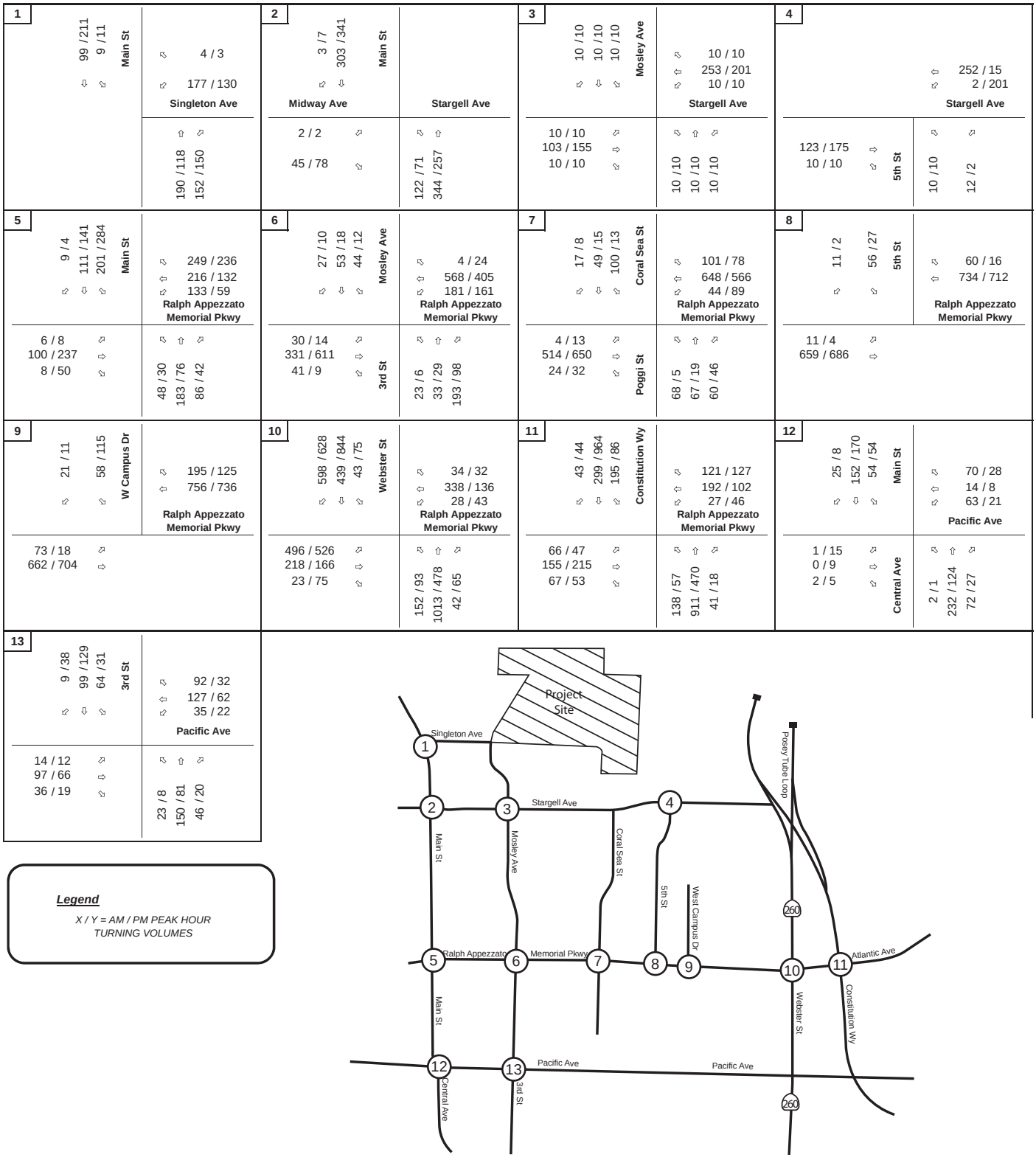
Existing turning movement volumes at each of the study intersections were obtained from the *City of Alameda General Plan Transportation Element* traffic studies (City of Alameda 2008c). Existing peak-hour turning movement volumes are provided in Figure 3.10-3.

Intersection Analysis

An analysis of existing conditions at each of the study intersections indicates that all but one of the study intersections currently function at LOS C or better. The one intersection not at LOS C or better is at Ralph Appezzato Memorial Parkway and Webster Street, which operates at LOS D during the morning peak hour. The results of the intersection analysis are contained in Table 3.10-2.

Source: Kimley Horn & Associates 2009

Figure 3.10-2
Bus Routes



NOT TO SCALE

Figure 3.10-3
Existing Peak-Hour Traffic Volumes

Table 3.10-2
Existing Conditions
Peak-Hour Intersection Level of Service Summary

Intersection		Traffic Control	Peak Hour	Existing	
				Delay [a]	LOS [b]
1	Singleton Ave & Main St	Actuated-Uncoordinated Signal	AM	8.6	A
			PM	7.7	A
2	W Midway Ave & Main St	Actuated-Uncoordinated Signal	AM	0.5	A
			PM	0.5	A
3	Stargell Ave & Mosley Ave	Two-Way Stop	AM	13.7	B
			PM	13.6	B
4	Stargell Ave & 5th St	One-Way Stop	AM	12.6	B
			PM	17.5	C
5	Ralph Appezzato Memorial Pkwy & Main St	Actuated-Uncoordinated Signal	AM	12.9	B
			PM	12.3	B
6	Ralph Appezzato Memoria Pkwy & Mosley Ave	Actuated-Uncoordinated Signal	AM	14.8	B
			PM	13.8	B
7	Ralph Appezzato Memorial Pkwy & Coral Sea St	Actuated-Uncoordinated Signal	AM	11.1	B
			PM	9.6	A
8	Ralph Appezzato Memorial Pkwy & 5th St	Actuated-Uncoordinated Signal	AM	4.7	A
			PM	2.9	A
9	Ralph Appezzato Memorial Pkwy & W Campus Dr	Actuated-Uncoordinated Signal	AM	13.0	B
			PM	11.8	B
10	Ralph Appezzato Memorial/ Pkwy & Webster St	Actuated-Uncoordinated Signal	AM	37.8	D
			PM	25.1	C
11	Ralph Appezzato Memorial Pkwy & Constitution Way	Actuated-Uncoordinated Signal	AM	22.5	C
			PM	19.1	B
12	Pacific Ave & Main St	Actuated-Uncoordinated Signal	AM	21.4	C
			PM	17.9	B
13	Pacific Ave & 3rd St	Actuated-Uncoordinated Signal	AM	11.0	B
			PM	12.3	B

[a] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
[b] LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0.

3.10.4 Year 2030 No Action

Roadway Network

The Year 2030 No Action roadway network and intersection geometrics include recent improvements observed in the field that differ from the existing condition scenario that was provided in the *City of Alameda General Plan Transportation Element*. Any further improvements that would be anticipated before Year 2030 were not included. The intersection geometric changes for Year 2030 are provided below and shown in Figure 3.10-4.

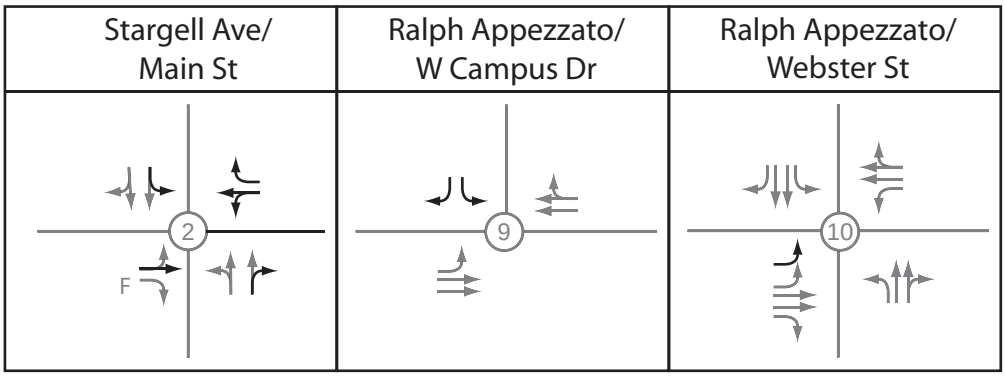
- At Stargell Avenue and Main Street, the east leg of the intersection was opened to traffic resulting in the lane configuration shown in Figure 3.10-4.
- At Ralph Appezzato Memorial Parkway and West Campus Drive, the southbound approach of the intersection was restriped resulting in the lane geometry shown in Figure 3.10-4.
- At Ralph Appezzato Memorial Parkway and Webster Street, an eastbound lane was added to the intersection which allowed for exclusive dual left-turn lanes and removed the need for split-phase signal timing.

Mass Transit

Strategies have already been put in place to further develop mass transit options near the west end of the City of Alameda. Both the *Alameda Point Master Plan* and the *Alameda Point Transportation Strategy* introduce a multi-faceted strategy to expand mass transit near the project area. Future mass transit improvements include a new ferry station and transit hub near Seaplane Lagoon, a bus rapid transit line with dedicated transit lanes and queue-jumping lanes, and an improved bicycle and pedestrian network that would facilitate access to transit. With these improvements in mind, mass transit participation should increase in the future.

Traffic Volumes

Year 2030 No Action volumes were obtained from the *City of Alameda General Plan Transportation Element* (City of Alameda 2008c). The intersection turning movement volumes are provided in Figure 3.10-5.



Legend:

(#) Signalized

(#) Unsignalized

F Free right-turn

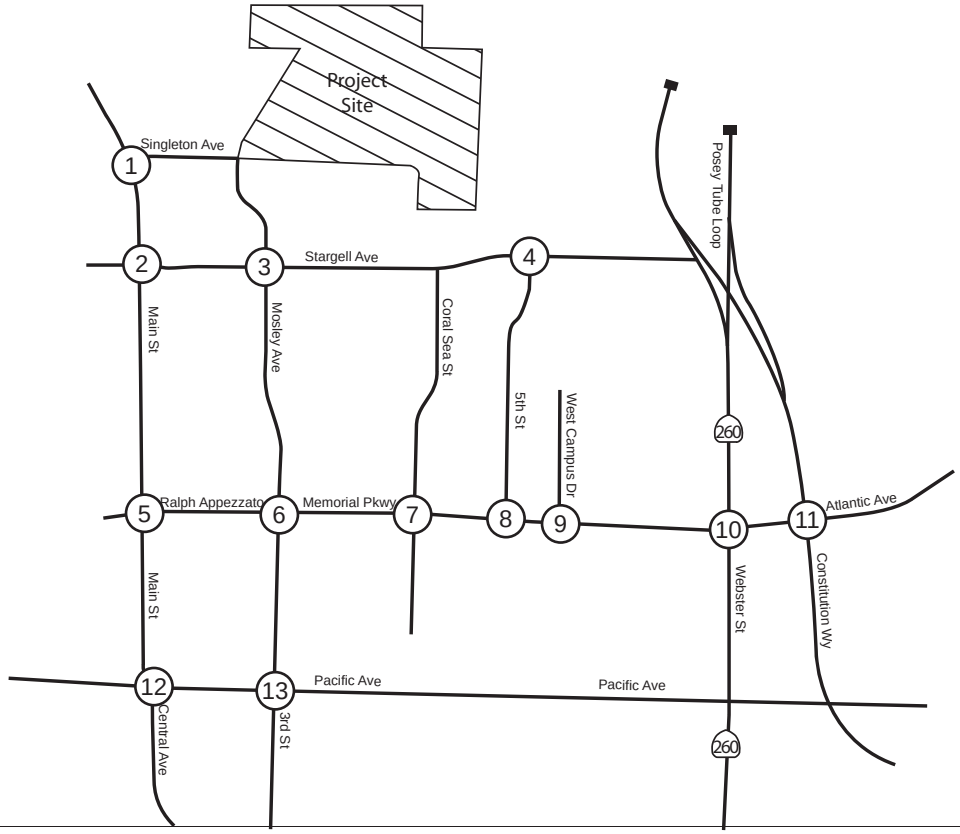


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Figure 3.10-4
Future Intersection Geometrics

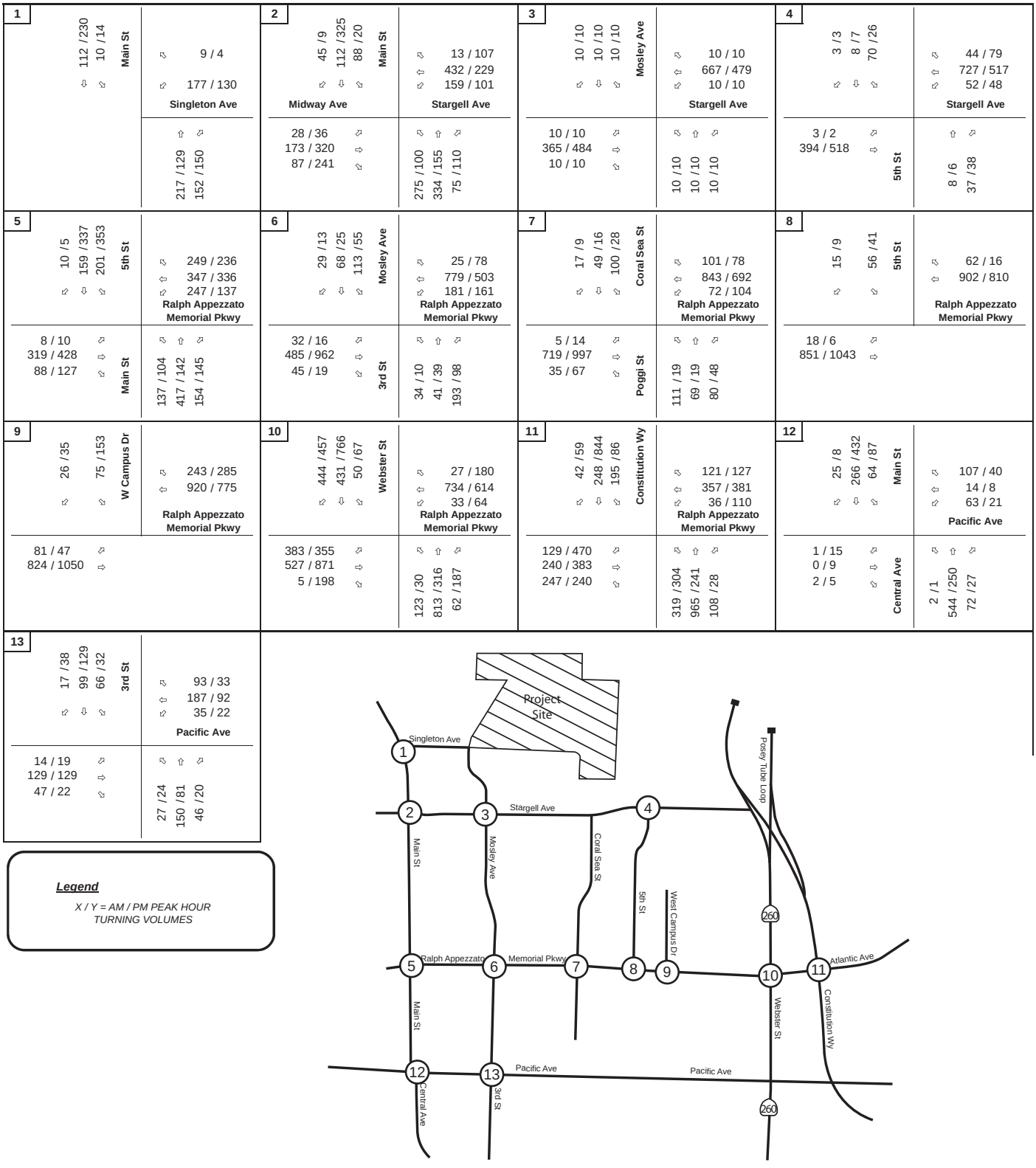

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Figure 3.10-5
Year 2030 No Action Peak-Hour Traffic Volumes

Intersection Analysis

An analysis of Year 2030 No Action conditions at each of the study intersections indicates that all but three of the study intersections would function at LOS C or better. These three intersections are:

- Stargell Avenue and 5th Street (LOS D, a.m. peak hour)
- Ralph Appezzato Memorial Parkway and Constitution Way (LOS D, p.m. peak hour)
- Pacific Avenue and Main Street (LOS D, a.m. peak hour)

The results of the intersection analysis are contained in Table 3.10-3. The City of Alameda prefers LOS C or better at intersections during peak hour but understands that certain intersections may see LOS D.

Table 3.10-3
Year 2030 No Action Conditions
Peak-Hour Intersection Level of Service Summary

Intersection		Traffic Control	Peak Hour	Year 2030 No Action	
				Delay [a]	LOS [b]
1	Singleton Ave & Main St	Actuated-Uncoordinated Signal	AM	8.4	A
			PM	7.5	A
2	W Midway Ave & Main St	Actuated-Uncoordinated Signal	AM	14.9	B
			PM	8.4	A
3	Stargell Ave & Mosley Ave	Two-Way Stop	AM	31.2	D
			PM	29.5	D
4	Stargell Ave & 5th St	One-Way Stop	AM	12.6	B
			PM	14.1	B
5	Ralph Appezzato Memorial Pkwy & Main St	Actuated-Uncoordinated Signal	AM	17.7	B
			PM	15.6	B
6	Ralph Appezzato Memoria Pkwy & Mosley Ave	Actuated-Uncoordinated Signal	AM	18.8	B
			PM	15.6	B
7	Ralph Appezzato Memorial Pkwy & Coral Sea St	Actuated-Uncoordinated Signal	AM	12.9	B
			PM	16.7	B
8	Ralph Appezzato Memorial Pkwy & 5th St	Actuated-Uncoordinated Signal	AM	4.9	A
			PM	3.3	A

Intersection		Traffic Control	Peak Hour	Year 2030 No Action	
				Delay [a]	LOS [b]
9	Ralph Appezzato Memorial Pkwy & W Campus Dr	Actuated-Uncoordinated Signal	AM	14.7	B
			PM	12.4	B
10	Ralph Appezzato Memorial\ Pkwy & Webster St	Actuated-Uncoordinated Signal	AM	36.8	D
			PM	44.0	D
11	Ralph Appezzato Memorial Pkwy & Constitution Way	Actuated-Uncoordinated Signal	AM	29.7	C
			PM	49.7	D
12	Pacific Ave & Main St	Actuated-Uncoordinated Signal	AM	35.7	D
			PM	26.4	C
13	Pacific Ave & 3rd St	Actuated-Uncoordinated Signal	AM	10.4	B
			PM	10.9	B

[a] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
[b] LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0.

Roadway Segment Analysis

Table 3.10-4 displays the peak hour roadway segment analysis for the Posey and Webster tubes under Year 2030 No Action conditions. As shown in the table, both tubes would continue to function at LOS F during both peak hours.

Table 3.10-4
Year 2030 No Action Conditions
Roadway Segment Level of Service Summary

Roadway Segment	Roadway Classification [a]	LOS E Capacity	Peak-Hour Volume [b]	LOS
AM Peak				
Posey Tube (EB), south of 5th St	2 lane Regional Arterial (one-way)	1,600	3,130	F
Webster Tube (WB), south of 5th St	2 lane Regional Arterial (one-way)	1,600	3,364	F
PM Peak				
Posey Tube (EB), south of 5th St	2 lane Regional Arterial (one-way)	1,600	3,123	F
Webster Tube (WB), south of 5th St	2 lane Regional Arterial (one-way)	1,600	3,476	F

Note: **Bold** values indicate roadway segments operating at LOS E or F.
[a] Existing roads street classification is based on the *City of Alameda Transportation Element Update* (2008).
[b] Peak-hour roadway volumes for the roadway segments were based on the City of Alameda Transportation Element Update (2008).

3.11 AIR QUALITY

3.11.1 Regulatory Framework

Federal

The National Ambient Air Quality Standards (NAAQS) were established by the federal Clean Air Act (CAA) of 1970 and amended in 1977 and 1990. The NAAQS represent the maximum levels of pollution considered safe, with an adequate margin of safety, to protect public health and welfare. The six primary air pollutants of concern for which the NAAQS have been established are ozone (O_3), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), lead (Pb), and particulate matter equal to or smaller than 10 microns in diameter (PM_{10}).

On July 18, 1997, the USEPA issued the national 8-hour O_3 and particulate matter equal to or smaller than 2.5 microns in diameter ($PM_{2.5}$) standards. The 8-hour NAAQS for O_3 was 0.08 parts per million (ppm). The $PM_{2.5}$ standards are an annual average of 15 micrograms per cubic meter ($\mu g/m^3$) and a 24-hour average of 65 $\mu g/m^3$.

The federal 1-hour O_3 standard was revoked by the USEPA on June 15, 2005. On October 17, 2006, the USEPA issued the "National Ambient Air Quality Standards for Particulate Matter Final Rule" (40 C.F.R. Part 50). This final rule states that the USEPA has reduced the level of the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ and has revoked the annual PM_{10} standard.

On May 27, 2008, the USEPA implemented a more stringent national 8-hour O_3 standard of 0.075 ppm. The national Pb standard, rolling 3-month average was issued on October 15, 2008.

Table 3.11-1 presents the updated NAAQS for the criteria air pollutants at different averaging periods. A criteria pollutant is defined as any air pollutant for which there is an established NAAQS. The NAAQS, other than the O_3 standard and the standards based on annual averages or annual arithmetic means, are not to be exceeded more than once per year. The annual standards should never be exceeded. When an area violates a health-based standard, the CAA requires that the area be designated as

Table 3.11-1
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	
			Primary	Secondary
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m^3)	---	---
	8-hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	0.075 ppm (147 µg/m^3)
Carbon monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	---
	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	---
Nitrogen dioxide (NO_2)	Annual	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	0.053 ppm (100 µg/m^3)
	1-hour	0.18 ppm (339 µg/m^3)	---	---
Sulfur dioxide (SO_2)	Annual	---	0.030 ppm (80 µg/m^3)	---
	24-hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)	---
	3-hour	---	---	0.5 ppm (1,300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	---	---
Respirable particulate matter (PM_{10})	Annual	20 µg/m^3	---	---
	24-hour	50 µg/m^3	150 µg/m^3	150 µg/m^3
Fine particulate matter ($PM_{2.5}$)	Annual	12 µg/m^3	15.0 µg/m^3	15.0 µg/m^3
	24-hour	---	35 µg/m^3	35 µg/m^3
Sulfates	24-hour	25 µg/m^3	---	---
Lead (Pb)	30-day	1.5 µg/m^3	---	---
	Quarterly	---	1.5 µg/m^3	1.5 µg/m^3
	Rolling 3-month average	---	1.5 µg/m^3	1.5 µg/m^3
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m^3)	---	---
Vinyl chloride	24-hour	0.01 ppm (26 µg/m^3)	---	---
Visibility-reducing particles	8-hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.	---	---

nonattainment for that pollutant. NAS Alameda is in Alameda County within the Bay Area. The Bay Area is designated as a federal attainment/unclassified area for NO_2, SO_2, PM_{10}, and Pb standards; a marginal nonattainment area for the O_3 standard; and a maintenance area for the CO standard (BAAQMD 2009). The USEPA has designated the Bay Area as nonattainment for the 35 $\mu g/m^3$ $PM_{2.5}$ standard to be effective in April 2009 (BAAQMD 2009).

The CAA requires each state to develop, adopt, and implement a State Implementation Plan (SIP) to achieve, maintain, and enforce federal air quality standards throughout the state. SIP documents are developed on a pollutant-by-pollutant basis whenever one or more federal air quality standards are being violated. In California, local governments and air pollution control districts have the primary responsibility for developing and adopting the regional elements of the California SIP.

The 1990 Amendment to CAA Section 176 requires the USEPA to promulgate rules to ensure that federal actions conform to the appropriate SIP. These rules, known as the General Conformity Rule (40 C.F.R. Parts 51.850-51.860 and 93.150-93.160), require any federal agency responsible for an action in a nonattainment/maintenance area to determine whether that action conforms to the applicable SIP or whether the action is exempt from the General Conformity Rule requirements. This means that federally supported or funded activities would not (1) cause or contribute to any new air quality standard violation, (2) increase the frequency or severity of any existing standard violation, or (3) delay the timely attainment of any standard, interim emission reduction, or other milestones.

An action would conform to a SIP and be exempt from a conformity determination if the action is within one of the exemption categories specified by the General Conformity Rule. An action would conform to a SIP and be exempt from a conformity determination if an applicability analysis shows that the total direct and indirect emissions from the action construction and operational activities would be less than specified emission rate thresholds, known as federal *de minimis* levels, and that the emissions would be less than 10 percent of the area emission budget. As stated previously, the Bay Area is designated as a marginal nonattainment area for the federal O_3 standard, a nonattainment area for the federal $PM_{2.5}$ standard to be effective April 2009, and a maintenance area for the federal CO standard. The corresponding *de minimis* level for these pollutants and their precursors in the Bay Area is 100 tons per year (tons/year) (91 tonnes per year [tonnes/year]).

State

The California Air Resources Board (CARB) has developed the California Ambient Air Quality Standards (CAAQS) (Table 3.11-1). In the past, the CAAQS were set at levels "not to be equaled or exceeded." During a review of state regulations in 1982 pursuant to Assembly Bill 1111, the CARB changed the basis for determining a violation of a state standard to an "exceed only" policy. This change has been implemented for the CAAQS for O_3, CO (except for the 8-hour standard for the Lake Tahoe Air Basin), NO_2, SO_2, and PM_{10}. The remaining standards are not to be equaled or exceeded. The Bay Area is designated as a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$.

On June 5, 2003, the Office of Administrative Law approved amendments to the regulations for the CAAQS for particulate matter (PM) and sulfates. The amendments to the CAAQS are as follows:

- The annual average standard for PM_{10} was lowered from 30 to 20 $\mu g/m^3$, not to be exceeded;
- A new annual average standard of 12 µg/m3 was established for $PM_{2.5}$, not to be exceeded;
- The 24-hour average standard of 50 $\mu g/m^3$ for PM_{10} was retained; and
- The 24-hour average standard of 25 $\mu g/m^3$ for sulfates was retained.

The California 8-hour O_3 standard was approved by the CARB on April 28, 2005 and became effective on May 17, 2006. The California 8-hour O_3 standard is 0.070 ppm.

Local

The Bay Area Air Quality Management District (BAAQMD) is the agency responsible for protecting public health and welfare through the administration of federal and state air quality laws and policies in the Bay Area. Included in the BAAQMD's tasks are monitoring ambient air pollution levels, preparing air quality attainment plans and the Bay Area portion of the California SIP, and promulgating local air quality rules and regulations.

The BAAQMD, Metropolitan Transportation Commission (MTC), and ABAG prepared the "Revised San Francisco Bay Area Ozone Attainment Plan for the 1-hour National Ozone Standard" in 2001. This plan is a revision to the Bay Area part of the California SIP to achieve the federal O_3 standard. The plan was prepared in response to the USEPA's partial approval and partial disapproval of the Bay Area's 1999 O_3 attainment plan.

The BAAQMD, in cooperation with the MTC and ABAG, prepared the "Bay Area 2005 Ozone Strategy" in 2005. The Ozone Strategy is a roadmap showing how the Bay Area will achieve compliance with the state 1-hour air quality standard for O_3 as expeditiously as practicable and how the region will reduce transport of O_3 and O_3 precursors to neighboring air basins.

The BAAQMD has begun the process to prepare the 2009 Bay Area Clean Air Plan (BAAQMD 2009). The 2009 Bay Area Clean Air Plan will:

- Update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California CAA to implement "all feasible measures" to reduce ozone;
- Consider the impacts of ozone control measures on particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
- Review progress in improving air quality in recent years; and
- Establish emission-control measures to be adopted or implemented in the 2009-2012 timeframe.

The BAAQMD developed the "CEQA Guidelines Assessing the Air Quality Impacts of Project and Plans" (BAAQMD 1999). The purpose of the BAAQMD CEQA Guidelines is to assist Lead Agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the Bay Area. The Guidelines established operational emission thresholds for reactive organic gases (ROG), nitrogen oxides (NO_x), and PM_{10} to evaluate impact levels of these air pollutants. Table 3.11-2 presents the BAAQMD operational emission thresholds. For purposes of this analysis, when the BAAQMD does not identify quantifiable emission thresholds, the applicable federal *de minimis* levels are used as impact thresholds. The applicable federal *de minimis* level for CO, $PM_{2.5}$ and SO_2 is 100

tons/year (91 tonnes/year). Additionally, for consistency, daily equivalents have been developed as applicable.

Table 3.11-2
BAAQMD Emission Thresholds

Pollutant	tons/year (tonnes/year)	lbs/day (kgs/day)
ROG	15 (13.6)	80 (36)
NO_x	15 (13.6)	80 (36)
PM_{10}	15 (13.6)	80 (36)

The BAAQMD CEQA Guidelines also established thresholds of significance for evaluating localized traffic-related CO concentrations impacts (BAAQMD 1999). According to the BAAQMD CEQA Guidelines, localized CO concentrations should be estimated for projects in which: (1) vehicle emissions of CO would exceed 550 pounds per day (lbs/day) (249 kilograms [kgs]/day), (2) project traffic would impact intersections or roadway links operating at LOS D, E, or F or would cause LOS to decline to D, E, or F, or (3) project traffic would increase traffic volumes on nearby roadways by 10 percent or more.

3.11.2 Climate and Meteorology

Meteorological and climatological conditions influence ambient air quality. The climate of the Bay Area is characterized by warm, dry summers and mild winters, and is dominated by a semi-permanent high-pressure cell located over the Pacific Ocean. This high-pressure cell maintains clear skies for much of the year. It also drives the dominant onshore circulation and helps create two types of temperature inversions – subsidence and radiation – that contribute to local air quality degradation.

Subsidence inversions occur during the warmer months, as descending air associated with the Pacific high-pressure cell comes into contact with cool marine air. The boundary between the two layers of air represents a temperature inversion that traps pollutants below it. Radiation inversions typically develop on winter nights with low wind speeds, when air near the ground cools by radiation and the air aloft remain warm. A shallow inversion layer that can trap pollutants is formed between the two layers.

The Western Regional Climate Center has records of climate data for many stations in the United States. The nearest station to the site is the Oakland station. The average daily maximum temperature recorded at this station is 72.9 degrees Fahrenheit (°F) in September, and the average daily minimum temperature is 41.8°F in January, according to the "Climate Data Summary" compiled by the Western Regional Climate Center (WRCC 2009). The normal precipitation in this area is 22.61 inches (57.4 centimeters) annually, occurring primarily from November through March. Climate summary data for the Oakland station are summarized in Table 3.11-3.

Table 3.11-3
Climatological Data Summary
Oakland, California

Month	Temperature (°F)		Precipitation (in)
	Average Maximum	Average Minimum	Average Total
Jan	54.2	41.8	4.57
Feb	57.9	44.3	4.31
Mar	61.1	45.5	3.20
Apr	64.7	47.7	1.44
May	68.0	50.1	0.79
Jun	72.0	53.0	0.22
Jul	72.7	54.4	0.01
Aug	72.0	54.5	0.05
Sep	72.9	54.8	0.34
Oct	69.1	52.0	1.20
Nov	62.4	47.5	2.30
Dec	55.5	43.0	4.19
Annual Mean	**65.2**	**49.0**	**22.61**

3.11.3 Existing Ambient Air Quality

The major pollutants of concern in the Bay Area include ozone, carbon monoxide, and particulate matter that are monitored at numerous locations. There are no monitoring stations in Alameda; the nearest monitoring stations to the site are San Leandro and San Francisco monitoring stations. According to the BAAQMD (2005), the Oakland station was closed on November 30, 2005. On November 1, 2007, an Oakland station was reestablished; however, because there is only a brief period of data available for this site in 2007, summary reporting will not begin until 2008 (BAAQMD 2007).

Table 3.11-4, Ambient Air Quality Summary, presents a summary of the highest pollutant concentrations monitored at the San Leandro and San Francisco air quality monitoring stations during the three most recent years (2005-2007) for which the BAAQMD has reported data (BAAQMD 2005-2007).

As illustrated in Table 3.11-4, no exceedances of the NAAQS for O_3, CO, NO_2, SO_2, and PM_{10} were recorded from 2005 through 2007 at these stations. The federal 24-hour $PM_{2.5}$ standard was exceeded several times in 2006 and 2007. There were no exceedances of the CAAQS for CO, SO_2, $PM_{2.5}$, and NO_2 recorded at the San Francisco monitoring station from 2005 through 2007. The monitoring data show that the state standard for O_3 was exceeded one day in 2005 as recorded at the San Leandro station. The state standards for PM_{10} were exceeded several days in 2006 and 2007 as recorded at the San Francisco station.

In 1976, the USEPA established a nationally uniform air quality index (AQI), called the Pollutant Standard Index (PSI). The PSI, commonly referred to as the AQI, includes sub-indices for O_3, PM, CO, SO_2, and NO_2 that relate ambient pollutant concentrations to index values on a scale from 0 to 500. This represents a very broad range of air quality, from pristine air to air pollution levels that present imminent and substantial endangerment to the public. The index is normalized across pollutants by defining an index value of 100 as the numerical level of the primary NAAQS for each pollutant and an index value of 500 as the significant harm level. Table 3.11-5 presents current USEPA color-coded AQI ranges.

The BAAQMD prepares its daily AQI forecast by taking the anticipated concentration measurements for each of the major pollutants, converting them into AQI numbers, and posting the highest AQI number for each reporting zone. Although daily AQI values vary day by day, according to the BAAQMD (2009), AQI levels above 300 rarely occur in the United States, and AQI readings above 200 have not occurred in the Bay Area in decades.

Table 3.11-4
Ambient Air Quality Summary
San Leandro and San Francisco Air Monitoring Stations

Pollutant	Monitoring Station	Average Time	CAAQS[a]	NAAQS[a]	Maximum Concentrations[a]			Number of Days Exceeding CAAQS			Number of Days Exceeding NAAQS		
					2005	2006	2007	2005	2006	2007	2005	2006	2007
O_3	San Leandro	1-hour	0.09	-	0.099	0.088	0.071	1	0	0	-	-	-
		8-hour	0.070	0.075	0.061	0.066	0.054	0	0	0	0	0	0
O_3	San Francisco	1-hour	0.09	-	0.058	0.053	0.060	0	0	0	-	-	-
		8-hour	0.070	0.075	0.054	0.046	0.049	0	0	0	0	0	0
CO	San Francisco	1-hour	20	35	2.5	2.7	2.5	0	0	0	0	0	0
		8-hour	9.0	9	2.1	2.1	1.6	0	0	0	0	0	0
NO_2	San Francisco	1-hour	0.18	-	0.066	0.107	0.069	0	0	0	-	-	-
		Annual	0.030	0.053	0.016	0.016	0.016	0	0	0	0	0	0
SO_2	San Francisco	24-hour	0.04	0.14	0.007	0.006	0.006	0	0	0	0	0	0
		Annual	-	0.030	0.0014	0.0013	0.0015	-	-	-	0	0	0
PM_{10}[b]	San Francisco	24-hour	50	150	46	61	70	0	3	2	0	0	0
		Annual (2)	20	-	20.1	22.9	21.9	1	1	1	-	-	-
$PM_{2.5}$[c]	San Francisco	24-hour (3)	-	35	43.6	54.3	45.2	-	-	-	0	3	5
		Annual	12	15.0	9.5	9.7	8.7	0	0	0	0	0	0

[a] Maximum concentration units for O_3, CO, SO_2, and NO_2 are parts per million (ppm). Concentration units for PM_{10} and $PM_{2.5}$ (24-hour or annual) are micrograms per cubic meter ($\mu g/m^3$).
[b] The USEPA revoked the federal annual standard for PM_{10} effective December 18, 2006.
[c] The 24-hour federal standard for $PM_{2.5}$ was reduced from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ effective December 18, 2006.
Source: BAAQMD 2005-2007.

Table 3.11-5
Current USEPA AQI and Health Advisory

AQI Range	USEPA Color Scale	USEPA Descriptor	Health Advisory
0 to 50	Green	Good	The air quality is good and one can engage in outdoor physical activity without health concerns.
51 to 100	Yellow	Moderate	At this level, the air is probably safe for most people. However, some people are unusually sensitive and react to ozone in this range, especially at the higher levels (in the 80s and 90s). People with heart and lung diseases such as asthma, and children, are especially susceptible. People in these categories, or people who develop symptoms when they exercise at "yellow" ozone levels, should consider avoiding prolonged outdoor exertion during the late afternoon or early evening when the ozone is at its highest.
101 to 150	Orange	Unhealthy for sensitive groups	In this range, the outdoor air is more likely to be unhealthy for more people. Children, people who are sensitive to ozone, and people with heart or lung disease should limit prolonged outdoor exertion during the afternoon or early evening, when ozone levels are highest.
151 to 200	Red	Unhealthy	In this range, even more people will be affected by ozone. Most people should restrict their outdoor exertion to morning or late evening hours when the ozone is low, to avoid high ozone exposures.
201 to 300	Purple	Very unhealthy	Increasingly more people will be affected by ozone. Most people should restrict their outdoor exertion to morning or late evening hours when the ozone is low, to avoid high ozone exposures.
Over 300	Black	Hazardous	Everyone should avoid all outdoor exertion.

3.11.4 Existing Air Pollutant Emission Sources

The existing use of the NAS Alameda North Housing Parcel is in a caretaker status, which would result in minimal traffic; therefore, air pollutant emissions associated with the traffic would be minimal. No industrial sources are reported on the site.

3.12 NOISE

3.12.1 Noise Environment

The proposed project site is a 42-acre (15-hectare) parcel located in an urban area within the City of Alameda. The site is developed with 51 residential structures of former military housing units, which have been vacated and are not currently occupied by military or other civilian residents. There are paved roads and parking lots that serve the housing units. Along the northern boundary of the parcel is an undeveloped area that was previously used as an open recreational park.

The area surrounding the project site is primarily developed with mixed use (commercial, industrial, residential, recreational, and open space). There are active residential areas located adjacent to south, and west of the project site. North of the project site is the Oakland Inner Harbor with the operations of the Port of Oakland. East of the project site is developed land formerly part of FISCA, which includes warehouses and an administrative building, some currently occupied by local businesses. This area is proposed for redevelopment, which would include a mix of residential, commercial, office, and research and development. Southeast of the project site is the College of Alameda campus. Immediately south of the USCG Housing area, and further south of the project site, is the recently constructed Bayport master plan residential development. To the west is an additional park area, which connects with the park space in the northern portion of the parcel. Also west of the project site are industrial marine facilities associated with the Inner Harbor. Further west and south is Alameda Point, a redevelopment for the City of Alameda Reuse Plan, which includes residential development, commercial and retail mixed uses, historic preservation areas, public open space, and parks (including the Alameda Sports Complex).

The Health and Safety Element of the City of Alameda General Plan identifies aircraft and local roadway traffic as the City's primary noise sources. The site is adjacent to Singleton Avenue, a collector street to the south; and arterials of Stargell Avenue, 700 feet (213 meters) to the south; Main Street 800 feet (243 meters) to the west; and Webster Street 1,300 feet (396 meters) to the east. Interstate 880 is 0.75 mile (1.2 kilometers) north of the site across the Inner Harbor in the City of Oakland. Port, maritime, and train activities in the Inner Harbor and the City of Oakland generate maximum noise levels from the sounding of whistles and horns. Aircraft noise in the City results from flights from Metropolitan Oakland International Airport, approximately

7 miles (11 kilometers) southeast of the site, and from San Francisco International Airport, approximately 12 miles (19 kilometers) southwest of the site.

3.12.2 Noise Sensitive Receptors

The project site has land uses that are sensitive to noise that may be significantly affected by interference from noise. Noise sensitive land uses may be defined as residences, schools, churches, hospitals, convalescent (nursing) homes, hotels, and certain parks. Excessive exposure to noise can result in adverse physical and psychological responses, in addition to interfering with speech and concentration, or diminishing the quality of life.

The project site is currently vacant of noise sensitive receptors. Receptors of the surrounding area include residential areas adjacent to and south of Singleton Avenue and west of Main Street; the Woodstock Child Development Center and Island High School adjacent to and south of Singleton Avenue; the College of Alameda at 5th Street and Stargell Avenue.

In addition to human noise sensitive receptors, protected animal species and their habitat may be considered sensitive noise receptors if located near construction and operational noise sources, especially during the species' breeding seasons. The project site and surrounding areas are fully developed, and are not located within an area where there is potential for protected animal species and their habitat.

3.12.3 Noise Terminology

Noise is generally defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in the extreme, hearing impairment. Noise levels are measured as decibels (dB) on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, doubling the energy of a noise source (e.g., traffic volume) would not double the noise level. In addition, the human ear is not equally sensitive to all frequencies within the sound spectrum. The most common method to characterize sound heard by the human ear is the "A weighted" sound level, or dB (A), which filters out noise frequencies not audible to the human ear, thereby weighting the audible frequencies. Typical instantaneous noise

levels of common indoor and outdoor activities range from approximately 0 to 110 dBA (Caltrans 1998).

In addition to instantaneous noise levels, noise levels measured over a period of time are used to assess noise limits and impacts. Noise levels measured over 1 hour are usually expressed as dBA L_{eq}, the equivalent 1-hour noise level. Time of day is also an important factor for noise assessment; noise levels that may be acceptable during the day may interfere with the ability to sleep during evening or nighttime hours. Therefore, there are 24-hour noise levels. The community noise equivalent level (CNEL) is the cumulative noise exposure in a community during a 24 hour period, which adds 5 dBA to evening sound levels (between 7:00 p.m. and 10:00 p.m.), and 10 dBA to the nighttime sound levels (between 10:00 p.m. and 7:00 a.m.). The day/night average sound level (L_{dn}) is the same as the CNEL, except the 3-hour evening period is considered part of the daytime period.

3.12.4 Regulatory Setting

Various state and local agencies have developed noise regulations including guidelines for evaluating noise/land use compatibility. With the closure of NAS Alameda, no federal noise regulations are applicable to the proposed project.

Land Use Compatibility Standards for Community Noise Environments, established by the California Department of Health Services, were adopted by the City, as shown in Table 3-29 in the FEIS. Noise levels of up to 60 dBA L_{dn} are considered "normally acceptable" noise compatibility standards for residential areas, and 60 to 70 dBA L_{dn} as "conditionally acceptable." The California Department of Housing and Community Development established noise insulation performance standards for dwellings other than detached single-family structures such that exterior noise levels will not result in noise levels exceeding and annual average CNEL value of 45 dBA with the windows closed.

Noise regulations applicable to the proposed project are provided in the Health and Safety Element of the City's General Plan, and the City's noise ordinance. The Health and Safety Element includes policies requiring site and building design to achieve noise/land use compatibility to the extent feasible, recognizing that noise sensitive land uses in commercial areas will be subject to higher noise levels. Applicable implementing policies include requiring acoustical analysis for new or replacement noise sensitive

land uses in areas with noise levels of 60 dBA or greater; requiring new or replacement uses to meet noise guidelines; and enforcing the community noise ordinance.

The City's Municipal Code Section 4-10, Noise Control Ordinance, establishes maximum exterior noise standards for noise sensitive receptors of 55 dBA during the daytime (7 a.m. to 10 p.m.) and 50 dBA during the nighttime (10 p.m. to 7 a.m.). The Noise Control Ordinance exempts construction activities from 7 a.m. to 7 p.m. Monday through Fridays, and 8 a.m. to 5 p.m. on Saturdays; and does not set a construction noise limit.

3.13 HAZARDOUS MATERIALS AND WASTE

This section describes the past use of hazardous materials, petroleum products and the generation of hazardous waste during NAS Alameda operations, now commonly referred to as Alameda Point. It also discusses the locations and environmental condition of areas that have been affected by releases of hazardous materials, hazardous wastes, and/or petroleum products. The ROI for hazardous materials and hazardous wastes includes the North Housing Parcel (Parcels 181 and 182) at Alameda Point and any adjacent area that may have been affected by hazardous materials and wastes originating at Alameda Point, or areas from which hazardous materials and wastes could migrate onto Alameda Point.

The North Housing Parcel is located on Alameda Point, within the former Navy installation NAS Alameda in Alameda, California. Alameda Point, located adjacent to the City of Oakland, in Alameda County, is roughly rectangular, about 2 miles (3.2 kilometers) long (east to west) and 1 mile (1.6 kilometers) wide (north to south), and occupies 1,734 acres (701 hectares). Alameda Point is located at the western tip of Alameda Island, which is surrounded by San Francisco Bay and the Oakland Inner Harbor. The North Housing Parcel is located east of Main Street on the northeast side of Alameda Point. The former Fleet Industrial Supply Center Annex, Alameda Annex (FISCA) is located to the north and east of the North Housing Parcel (NAVFAC SW 2007a).

In the late 1800s, the nearest land to Alameda Point consisted of the “Alameda Mole,” a railroad embankment that ran through marshland and intertidal areas. From the late 1800s until the 1920s, two manufactured gas plants, an oil refinery (Pacific Coast Oil Works), an asphalt pipe manufacturing plant, a soap company, a carriage factory, and other manufacturing businesses were located near the present-day North Housing Parcel. These facilities may have discharged hazardous materials and other wastes along the sides of tidal channels and on the surface of marshlands near the North Housing Parcel. As the marshlands and intertidal areas were filled in, these wastes became entrapped in the subsurface soils, creating what is now referred to as the Marsh Crust (NAVFAC SW 2007a).

Subsequent filling actions have buried the Marsh Crust at depths ranging from 8 to 20 feet (2.4 to 6 meters) below ground surface. The fill material itself (i.e., material that overlies the Marsh Crust) consists mostly of dredged sediment from Oakland Inner

Harbor and San Francisco Bay. This sediment contains deposits of similar waste materials to that forming the Marsh Crust, and these deposits appear to have originated from coal gasification plants, several of which were historically located in what is now Jack London Square located across the Bay in Oakland (NAVFAC SW 2007a).

The North Housing Parcel history shows that the fill was in place by 1930, and most of the fill, particularly in the northern part of the site, was in place by 1919. Aerial photographs show that the North Housing Parcel, which was not then part of NAS Alameda, was developed as housing in the 1940s. These houses remained through the mid-1960s (NAVFAC SW 2007a). The Navy acquired the North Housing Parcel in two separate transactions in 1966 and 1968 for the purpose of housing military personnel. The northern part of the site was acquired in April 1966 and the eastern part of the site was acquired in March 1968. The Navy constructed housing at the North Housing Parcel in 1969. Alameda Point was closed in April 1997, under the BRAC Act. In July 1999, the facility was designated as a National Priority List (NPL) site. The listing of Alameda Point on the NPL invokes the applicable requirements of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (NAVFAC SW 2007a).

Although widely accepted at the time, procedures followed prior to the mid-1970s for managing and disposing of many hazardous materials and wastes often resulted in soil and groundwater contamination. Management of hazardous substances, including hazardous materials and hazardous wastes, is now rigorously regulated by federal, state, and local laws and regulations. Engineering Field Activity West (EFA West) at San Bruno and the Navy Transition Office at Alameda Point were managing the implementation of compliance programs and site assessments and subsequent site restorations (EFA West 1999).

3.13.1 Hazardous Materials Regulations

Following is a brief discussion of the current major federal laws and regulations that apply to hazardous materials and waste that are applicable to the North Housing Parcel area.

Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901 et seq. In response to the need to more closely regulate the ongoing handling, storage, transportation, and disposal of hazardous wastes, the U.S. Congress passed the Resource Conservation Recovery Act (RCRA). RCRA presents the federal regulations

for operating hazardous waste storage, treatment, and disposal sites. Prior to RCRA, the state of California had passed the Hazardous Waste Control Law of 1972, Cal.

Health and Safety Code § 25100 et seq. This law provides regulations that equal or exceed the federal standards set by RCRA for hazardous waste management. The state of California was given "interim authorization" to implement RCRA by enforcing the State Hazardous Waste Control Law. Final authorization for the state to implement RCRA was given in 1993. The responsible agency for enforcing RCRA and the Hazardous Waste Control Law is the California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC) (EFA West 1999).

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9601 et seq. Originally passed in 1980, the CERCLA created national policies and procedures to identify and remediate sites previously contaminated by the release of hazardous substances. The CERCLA formalized the process for identifying sites and prioritizing site cleanup. The CERCLA regulations contain criteria for evaluating sites that provide the basis for Preliminary Assessment and Site Inspection. The evaluation that results is a priority ranking of the site that determines whether it should be placed on the NPL. Facilities placed on the NPL are commonly referred to as Superfund sites. The USEPA is the lead regulatory authority for properties placed on the NPL (EFA West 1999).

Properties that contain or potentially contain contamination may be conveyed or transferred prior to completion of environmental remediation only if the requirements of § 96 (h) (3) (c) of CERCLA are met. These requirements include the following:

- Agreement by the USEPA and the state that the property is suitable for the intended use and that the intended use will protect human health and the environment.
- Property use restrictions, if necessary, to ensure that human health and the environment are protected and that the necessary remedial action can take place.
- Assurances from the federal government that conveyance or transfer of the property will not substantially delay response actions at the property and that the federal government will continue any necessary response actions after conveyance or transfer.

- A federal budget request for adequate funding to complete the remedial actions on schedule.

In all other circumstances, contaminated or potentially contaminated properties cannot be conveyed or transferred until remediation is complete; however, the Department of Defense (DoD) established a policy for leasing these properties. Prior to 2005, regulatory participation by the DoD provided for the development of a site-specific or environmental baseline survey (EBS), or in specific cases, use of the basewide EBS and a FOSL or Finding of Suitability to Transfer (FOST) the property. The EBS was a preliminary evaluation and summary of all known and suspected areas where hazardous materials or petroleum products have been handled, stored, disposed of, or released within the boundaries of the site and adjacent areas. It also identified properties that met the criteria for conveyance, transfer, or lease set forth in Community Environmental Response Facilitation Act (CERFA), see 42 U.S.C. § 9601 note. The FOSL may include specific land use restrictions to protect human health and the environment and to ensure government access for final investigations and remediation. This process has taken place for several parcels at NAS Alameda.

With the exception noted above, a FOST may be issued only for properties on which all remedial actions necessary to protect human health and the environment have been taken, pursuant to CERCLA § 9620 (h)(3).

City of Alameda Marsh Crust Ordinance No. 2824. The Alameda Marsh Crust Ordinance establishes a permitting process to help ensure that any excavation deep enough to potentially encounter Marsh Crust is conducted so as to protect public health and the environment.

3.13.2 Hazardous Materials Management

Prior to 2005, the BRAC process required the preparation of a BRAC Cleanup Plan (BCP) and an EBS for each facility scheduled for closure. The BCP provided a plan and schedule for investigating and remediating property that does not meet CERFA standards. The BCP was revised periodically to provide a status report of environmental restoration and associated compliance programs (EFA West 1999).

As mandated by BRAC, the Navy conducted a series of basewide investigations as part of the EBS. The objective of the EBS was to inventory the property, parcel by parcel,

and identify known or suspected releases associated with historical or recent uses. No RCRA sites, underground storage tanks (USTs), or underground fuel lines were identified in the EBS for the North Housing Parcel (Parcels 181 and 182) (International Technology Corporation 1998).

3.13.3 Hazardous Waste Management

Hazardous waste management at Alameda Point is regulated under RCRA and the California Hazardous Waste Control Act. No RCRA sites, USTs or underground fuel lines were identified in the EBS for the North Housing Parcel (Parcels 181 and 182) (International Technology Corporation 1998).

3.13.4 Installation Restoration (IR) Program

In 1981, the Navy initiated a program to evaluate potential health and environmental hazards at all naval facilities where past hazardous material operations and waste disposal activities had taken place (EFA West 1999). In 1982, the Navy began evaluating Alameda Point under the Navy Assessment and Control of Installation Pollutants (NACIP) Program. In 1988, the Navy converted its NACIP Program into the Installation Restoration (IR) Program to be more consistent with CERCLA, or the USEPA's Superfund Program (IT 2001). This direction resulted in the IR program as currently defined by the Navy Environmental and Natural Resources Program Manual. The purpose of the Navy's IR Program is to identify, assess, characterize, and cleanup or control contamination from past hazardous waste disposal operations and hazardous material spills at Navy Facilities. The Navy's IR Program for environmental investigation and cleanup at Alameda Point is being conducted with cooperation and oversight from Cal/EPA, DTSC and the RWQCB. The primary goal of the IR Program at Alameda Point is to protect human health and the environment for all those who live, work, and visit Alameda Point (EFA West 1999). IR Site 18, Storm Drains, was divided and became part of the IR Sites where it is present.

Federal Facility Agreement

At the Former NAS Alameda, Federal Facility Agreement is a written agreement between the Navy, USEPA, California Department of Toxic Substances Control and the California Regional Water Quality Control Board. The agreement sets forth the roles and responsibilities of the agencies for performing and overseeing the activities.

Installation Restoration Program Status

For better management of the cleanup process, 34 IR Sites have been segregated into five operable units (OUs) at Alameda Point (IT 2001). IR Site 18, Storm Drains, was divided and became a part of the IR Sites where it is present.

The OUs were organized by the Base Closure Team according to the following factors in order of importance:

- Contaminant type, extent of contamination, and media
- Remediation management
- Reuse potential
- Geographic location
- Commingled plumes
- Plumes of nonfast-track sites commingled with plumes of fast-track sites

Among the 34 sites, there are currently 31 active sites and three (3) sites that do not require further action. There are three (3) IR Sites (i.e., IR Sites 25, 30, 31) on or adjacent to the North Housing Parcel. IR Site 25 is located within the North Housing Parcel but the entire parcel is not located within the plum boundary (Figure 3.13-1). Both IR Site 30 and IR Site 31 are located south of the North Housing Parcel on the south side of Singleton Avenue (Figure 3.13-1). In addition, there are seven (7) IR Sites at FISCA property. Two of the seven IR Sites (i.e., IR Sites 02 and 03) in the FISCA are located east of the North Housing Parcel boundary (Figure 3.13-1) (NAVFAC SW 2007b). Further details of these sites are provided below.

North Housing Parcel IR Sites

The following is a discussion of the five IR Sites that are located on and are adjacent to the North Housing Parcel, which are identified as having the potential for impact to the North Housing Parcel. Among them, IR Site 25 is located on the North Housing Parcel (NAVFAC SW 2007a). FISCA IR Sites 02 and 03, and NAS Alameda IR Sites 30 and 31 are adjacent to the North Housing Parcel (NAVFAC SW 2007b). All five sites are currently active IR Sites. Figure 3.13-1 shows the locations of the IR Site 25.

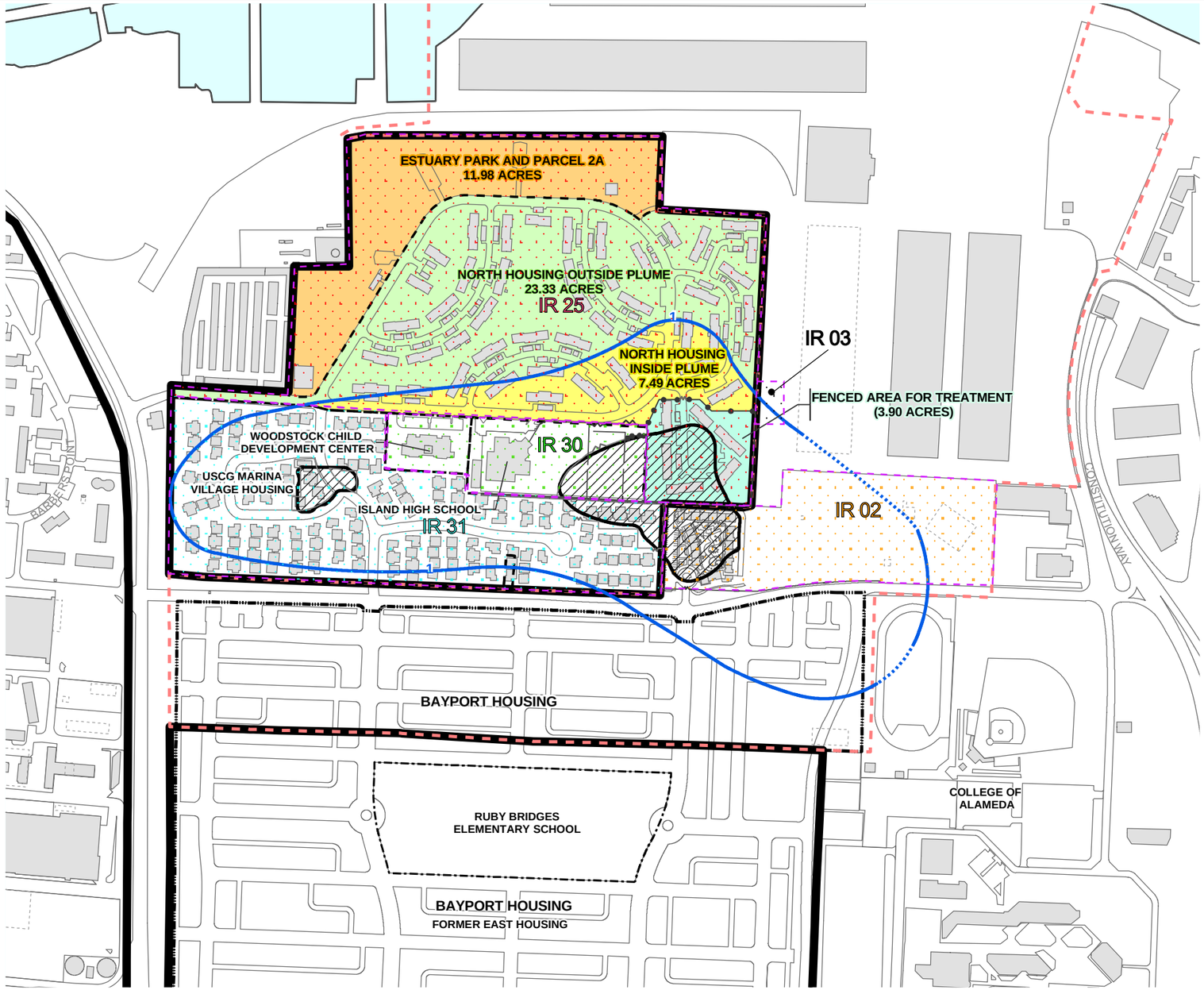
Alameda Point IR Sites 25, 30, 31

A number of investigations, as well as two CERCLA soil removal actions, have been conducted to address soil contamination at IR Site 25. Site 25 is located on Alameda Point, within the former Navy installation NAS Alameda in Alameda, California. Site 25 is located east of Main Street on the northeast side of Alameda Point. The former FISCA is located to the north and east of Site 25. Site 25 comprises approximately 42 acres (15 hectares). The historical land use at Site 25 has been housing. The following three parcels, as described in the 1999 EIS and EBS, are present within Site 25:

- Parcel 181 contains USCG North Village multi-unit housing structures, which are no longer occupied.
- Parcel 182 contains a park area.
- Parcel 183 contains Building 545, which is currently used by the USCG as a Housing Maintenance Office.

Soil beneath Site 25 is contaminated with polycyclic aromatic hydrocarbons (PAHs). The soil contamination is not related to Navy past operations at the site, but appears to be associated with contaminated fill placed at the site prior to the Navy obtaining the property. Soil contamination at Site 25 is located in the fill material above the Bay Mud, which constitutes the shallow, unconfined first water-bearing zone (FWBZ) beneath the site. The Bay Mud under the FWBZ form an aquitard between the shallow groundwater and the Merritt Sand, which composes much of the deeper, confined aquifer beneath the facility (NAVFAC SW 2007a).

The soil PAHs concentrations found at Site 25 increased with depth and were generally distributed throughout the site. During various investigations conducted between 1994 and 2005, soil, soil gas and groundwater samples were collected at Site 25. In general, concentrations of PAHs within the boundaries of the site decreased from north to southeast and increased from the surface to about 25 feet (7.6 meters) bgs approaching the surface of the historical Marsh Crust (NAVFAC SW 2007a). The Navy conducted two time-critical removal actions (TCRAs) to remove soil from areas with the highest concentrations of PAHs and the greatest likelihood from human exposure. In October 2000, the Navy removed PAH-impacted soil from the Clover Park Play Area to a depth of 4 feet (1.2 meters) bgs. In 2001 and 2002, the Navy additionally removed PAH-



LEGEND

- ROAD
- 1 µg/L BENZENE CONCENTRATION DASHED WHERE INFERRED
- TREATMENT AREA NORTHERN FENCE
- ESTUARY PARK AND PARCEL 2A (11.98 ACRES)
- FORMER NORTH HOUSING PARCEL OUTSIDE OF PLUME BOUNDARY (23.36 ACRES)
- FORMER NORTH HOUSING PARCEL INSIDE OF PLUME BOUNDARY (7.49 ACRES)
- FENCED AREA FOR TREATMENT (3.90 ACRES)
- TREATMENT AREAS
- ALAMEDA POINT BOUNDARY
- FISCA BOUNDARY
- SHINSEI GARDENS HOUSING DEVELOPMENT
- RUBY BRIDGES ELEMENTARY SCHOOL BOUNDARY
- EBS PARCEL BOUNDARY
- BUILDING
- FORMER BUILDING
- WATER
- IR SITE BOUNDARIES
  - IR 25
  - IR 30
  - IR 31
  - IR 02
  - IR 03

NOTES

DRMO - DEFENSE REUTILIZATION AND MARKETING OFFICE

EBS - ENVIRONMENTAL BASELINE SURVEY

FISCA - FLEET AND INDUSTRIAL SUPPLY CENTER OAKLAND, ALAMEDA FACILITY/ALAMEDA ANNEX

IR - INSTALLATION RESTORATION (PROGRAM)

OU - OPERABLE UNIT

Source: Tetra Tech 2009

200 0 200 400 Feet

Figure 3.13-1
IR Site Locations and Treatment Areas

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impacted soil from non-hardscaped areas to a depth of 2 feet (0.6 meter) bgs from Estuary Park, Parcel 181 and Parcels 182 and 183 (NAVFAC SW 2007a). The Human Health Risk Assessment (HHRA) was conducted as part of the 2005 Final Soil Feasibility Study report prepared for Site 25 to identify the contaminants of potential concerns (COPCs) in soil, soil gas and groundwater, for current and potential future residents (children and adults) and construction workers (NAVFAC SW 2007a). The HHRA evaluated the soil risks based on soil characteristics both prior to and after the completion of the TCRAs. Residential use of groundwater was not considered a completed exposure pathway. Post-TCRA results of the HHRA indicated that Site 25 soils within 4 feet (1.2 meters) bgs were within the NCP Risk Management Range. Site 25 soils within 8 feet (2.4 meters) of ground surface are generally within the NCP Risk Management Range, with the exception of DA-7 and Parcels 182 and 183. Additional protectiveness will be achieved by reducing exposure through institutional controls (IC) implementation. The selected remedy by the Navy in 2007 was to implement ICs for Site 25 to limit human contact with PAH-containing soil that may be harmful to human health. It also requires the future landowner to obtain written approval from regulatory agencies and the Navy, and requires the landowner to comply with a soil management plan for the excavation of soil from depths greater than 4 feet bgs and for the removal of buildings and hardscape (NAVFAC SW 2007a).

The Ecological Risk Assessments (ERAs) have also been conducted qualitatively as part of the 2005 Final Soil Feasibility Study report for Alameda Point for terrestrial ecological receptors and the bay. Based on the results of the preliminary evaluation and the marginal nature of the ecological habitat at Alameda Point OU-5, no further ecological investigations of the terrestrial habitat have been conducted. No risks to small mammals were identified (NAVFAC SW 2007a).

The groundwater contamination beneath the southern one-third of Site 25 is currently being addressed under OU-5/IR-02 groundwater remediation for a benzene and naphthalene plume that lies beneath portions of FISCA Sites IR-01, IR-02, and IR-03, as well as Sites 25, 30, and 31 from OU-5 at Alameda Point. The saturated thickness of the FWBZ averages approximately 10 feet (3 meters) beneath the site, and the depth to groundwater ranges from approximately 2 to 10 feet (0.6 to 3 meters) bgs. The elevation of the water table in the FWBZ ranges from 3 to 8 feet (0.9 to 2.4 meters) AMSL. Groundwater flow direction in the FWBZ is highly variable beneath the site. Groundwater generally has been reported to flow in the north to northwest direction, toward the Oakland Inner Harbor (NAVFAC SW 2007a).

Besides Site 25, OU-5 groundwater includes portions of the following two sites that are located on Alameda Point and adjacent to the North Housing Parcel:

- Site 30 is located south of Site 25 on Alameda Point. It is divided into two parcels (179 and 180). Parcel 179 contains the Island High School (formerly called the George Miller Elementary school) and Parcel 180 contains the Woodstock Child Development Center. Both of these facilities are currently occupied. Site 30 is approximately 6 acres (2.4 hectares) in size. Site 30 is located on the south and adjacent to the North Housing Parcel.
- Site 31 is located south and west of Site 30 on Alameda Point. It is divided into two parcels (178 and 184) and includes USCG Marina Village residential housing (occupied). Site 31 is approximately 25 acres (10 hectares) in size. Site 31 is located on the south-west side and adjacent to the proposed North Housing Parcel.

The OU-5 property was acquired in various transactions between 1951 and 1968 for the purposes of housing and storage. The OU-5 property is currently owned by the Navy. Sites 30 and 31 have always been part of Alameda Point. Previously, Sites 30 and 31 areas were called Alameda Facility and were used by various Alameda Point Squadrons (NAVFAC SW 2007b).

The OU-5 remedial investigation conducted during 2001 and 2005 reported that PAHs, semi-volatile organic compounds, Benzene, toluene, ethylbenzene, and total xylenes, Methyl tertiary-butyl ether, volatile organic compounds (VOCs), and total petroleum hydrocarbons were previously detected in groundwater at OU-5 at Alameda Point IR Sites 25, 30, and 31 (NAVFAC SW 2007b). Benzene and naphthalene have been consistently detected above drinking water action levels (Maximum Containment Level or Preliminary Remediation Goals [PRGs]). Generally, benzene concentrations have been found to increase with depth to the top of the Marsh Crust, with the highest concentrations detected in samples collected from approximately 16 to 20 feet (4.8 to 6 meters) bgs. Soils below approximately 20 feet (6 meters) bgs are predominantly Bay Mud, which is present across the site at a thickness ranging from 25 to 100 feet (7.6 to 30 meters) and serves as an effective aquitard to limit downward migration of contaminants. The naphthalene plume is generally co-located with the benzene plume underneath OU-5 (NAVFAC SW 2007b).

Figure 3.13-1 shows the location of the groundwater plume at the North Housing site. Approximately 7.48 acres of the plume are located on the North Housing site. The Kollmann Circle area (3.90 acres) is the staging area for an aboveground remediation system, for which fencing/security is required. This groundwater treatment system not only remediates groundwater in the North Housing area, but also the City of Alameda Shinsei Gardens property, USCG property, and property planned for transfer to the school district. The Feasibility Study (ERRG 2004) estimates remediation to take 8 years, with only 2 years running the system. The 3.9-acre Kollmann Circle area of Site 25 will likely not be available for development for the next 5 to 10 years. Outside the fenced remediation area, the monitoring and remediation efforts in the remainder of site 25 are expected to be minimally disruptive to residential use.

FISCA IR Sites 02 and 03

FISCA, comprising approximately 143 acres (57.8 hectares), is located along the southern shore of the Oakland Inner Harbor. From approximately 1900 to 1936, fill material obtained from unknown sources was used to create FISCA. Based on the history of Alameda Point, it is likely that the source of the fill material for FISCA was dredge spoils from the surrounding San Francisco Bay and the Oakland Inner Harbor. In the mid-1920s, a commercial airport known as the San Francisco Bay Airdrome was constructed in what is now the southern portion of FISCA. Maintenance of aircraft would likely have involved the use and storage of hazardous materials and the generation of associated wastes in the form of solvents, paints, and petroleum-based products such as aircraft fuel and lubricating oil. In 1996, FISCA was designated for closure under the BRAC Act of 1990. It was formally closed in September 1998. FISCA was transferred under an early transfer conveyance to the City of Alameda in June 2000 and following that conveyance, the Navy has continued to investigate and remediate FISCA sites under a revised Federal Facility Site Remediation Agreement (FFSRA) entered into with DTSC (NAVFAC SW 2007b).

IR-02 groundwater includes portions of the following two FISCA sites:

- IR-02 is located on the south central side of FISCA. The Defense Logistics Agency Defense Reutilization and Marketing Office operated a screening lot and scrap yard at IR-02 until 1997. The western portion of IR-02 was used as a screening lot and for temporary equipment storage. The eastern portion of IR-02.

- was used as a scrap yard and for temporary storage of discarded automobiles, stockpiled scrap metal, and surplus equipment. A multi-family residential project is currently planned for the western portion of IR-02. IR-02 is located on the south-east side and adjacent to the North Housing Parcel.
- IR-03 is located on the west central side of FISCA. It formerly consisted of an automotive drive-up maintenance rack over an asphalt-paved area. IR-03 is located on the east side and adjacent to the North Housing Parcel.

During the IR conducted in 2001, groundwater within the FWBZ beneath the site was discovered to be contaminated with dissolved-phase benzene and naphthalene. The sources of this contamination are believed to be primarily previous point-source releases and contaminated fill used to create Alameda Point and FISCA. Contamination entrapped in the Marsh Crust was found to likely contribute to the concentrations of contaminants observed in groundwater. The saturated thickness of the FWBZ averages approximately 10 feet (3 meters) beneath the site, and the depth to groundwater ranges from approximately 2 to 10 feet (0.6 to 3 meters) bgs. The elevation of the water table in the FWBZ ranges from 3 to 8 feet (0.9 to 2.4 meters) AMSL. Groundwater flow direction in the FWBZ is highly variable beneath the site due to tidal influence (NAVFAC SW 2007b).

An HHRA was conducted as part of the 2004 Remedial Investigation/Feasibility Study report for OU-5/IR-02 and identified COPCs in groundwater and soil gas. The HHRA was focused on theoretical scenarios such as residents, students and school workers exposed to vapor intrusion in indoor air; on-site workers exposed to contamination in groundwater during the operation of a commercial car wash; and maintenance/ landscape workers exposed to contaminants in groundwater through irrigation activities. The findings of the HHRA indicate that, under current land use scenarios, risk from non-drinking water uses to residents, students, and workers at the site are within the USEPA's risk management range. If groundwater wells were installed, use of groundwater could potentially pose an unacceptable cancer risk to car wash and landscape workers (NAVFAC SW 2007b).

Two ERAs were conducted. One was a screening level ERA, which is included in the 1999 Data Summary Report for Alameda Point; and one was a qualitative ERA of FISCA terrestrial habitat, which was presented in the final FISCA IR in 1996. Results of the previous ERAs conducted for both Alameda Point and FISCA concluded that there

is no significant risk to terrestrial ecological receptors, and there is no ecological risk to the Bay due to lateral groundwater movement or storm sewer system discharge (NAVFAC SW 2007b).

The remedy selected by the Navy in 2007, including following remedial technologies, biosparging, soil vapor extraction, nutrient/microorganism enhancement, monitored natural attenuation, and ICs will reach the site cleanup goals within eight years. This remedy reduces the mobility, toxicity, and volume of VOCs in the groundwater by implementing an expedient and proven treatment strategy (NAVFAC SW 2007b).

3.13.5 Asbestos

Asbestos is regulated by the USEPA with the authority promulgated by the Occupational Safety and Health Act of 1970, 29 U.S.C. § 651 et seq. Emissions of asbestos fibers to ambient air are regulated under Section 112 of the CAA. Asbestos are mineral fibers that can cause cancer or asbestosis when inhaled, and has the potential to pollute air and water. The USEPA has banned the use of asbestos in manufacturing or construction since July 12, 1989.

The Navy will follow final DoD guidance (1995) for asbestos issues at Alameda Point. A basewide asbestos-containing material (ACM) survey was completed at Alameda Point in 1995. The information collected in the ACM survey was incorporated into the EBS Qualitative Database. No asbestos issues were identified for Parcel 181. In Parcel 182 no ACM was confirmed by sample analysis in Building 534. However, non-friable grout, mastic, adobe roofing tile, and a fire door in this building were assumed to contain asbestos. It is noted that Building 534 is not part of this 42-acre (15-hectare) North Housing Parcel project. The building has already been conveyed to USCG and they use it as their housing facility office.

The Navy intended to handle asbestos issues as disclosure items upon property transfer; therefore, the Navy did not recommend immediate renovation or removal of ACM in this building. Operation and maintenance was recommended for the ACM identified in this building (IT 2001).

3.13.6 Polychlorinated Biphenyls

Polychlorinated Biphenyls (PCBs) are a specialized class of manufactured chemicals able to withstand high temperatures and insulate electrical currents. They were traditionally used in electrical transformers, capacitors, lighting ballasts, and other similar equipment. PCBs have been found to bioaccumulate in animal and human tissue and produce highly toxic dioxin compounds in fires. Consequently, PCB use is regulated.

No PCB issues were identified in Parcels 181 and 182 (IT 2001).

3.13.7 Storage Tanks

Both USTs and aboveground storage tanks (ASTs) store hazardous substances and petroleum products at locations throughout NAS Alameda (EFA West 1999).

Underground Storage Tanks

USTs in California are regulated under the California Code of Regulations, CAL. CODE REGS. Tit. 23 (2009), which was established to protect waters of the state from discharges of hazardous substances from USTs. These regulations establish construction standards for new USTs; monitoring standards for new and existing USTs; procedures for unauthorized release reporting; repair, upgrade, and closure requirements for existing USTs; and remedial action requirements. There were no USTs identified in Parcels 181 and 182 (IT 2001).

Aboveground Storage Tanks and Fuel Lines

ASTs are regulated under several state and federal mandates. The USEPA regulates ASTs under the amended CWA of 1972, NCP, RCRA, and Superfund Amendments and Reauthorization Act. In the state of California, the California Health and Safety Code, Chapter 6.67, Division 20, § 25270, provides the regulatory framework for ASTs. In April 1991, Senate Bill 1050 was added to Section 25270 of the code. The Public Resource Code, § 3106, also provides regulatory guidance for ASTs. There were no ASTs identified in Parcels 181 and 182 (IT 2001).

Aviation support and jet engine test activity at Alameda Point were supported by a network of fuel delivery lines. In 1998, approximately 30,000 feet (9,144 meters) of abandoned fuel lines and 4,500 feet (13,716 meters) of active fuel lines were removed. During removal of fuel lines, confirmation sampling was conducted and probes were utilized to assess the extent of releases. Investigation and removal actions are pending for contaminated areas under the basewide Petroleum Corrective Action Program. There were no fuel lines identified in Parcels 181 and 182 (IT 2001).

3.13.8 Pesticides

The registration and use of pesticides are regulated under the Federal Insecticide, Fungicide and Rodenticide Act of 1972, as amended, 7 U.S.C. § 136-136y (2009). Pesticide management activities are subject to federal regulations contained in 40 C.F.R. Parts 162, 166, 170 and 171 (2009) and California regulations are contained in cal. code regs. tit. 3, § 6000-6920 (2009) (EFA West 1999).

No evidence exists to suggest that pesticides and herbicides, other than those ordinarily and routinely applied in a manner consistent with the standards for licensed application, were ever used at former NAS Alameda, including the area known as North Housing. Pesticides, herbicides, insecticides, termiticides, and rodenticides were applied intermittently on an as-needed basis at former NAS Alameda, including the North Housing area, either by personnel from the PWC Pest Control Department or by contractor personnel. All personnel who routinely applied pesticides were trained and licensed in the proper and legal application of pest control substances. Pesticides were applied in accordance with the manufacturer's directions, state and federal EPA registered pesticide label directions, and the former NAS Alameda's annually approved pest management plan. Because the pesticides and herbicides were routinely applied in a manner consistent with the standards for licensed application, they likely do not pose a threat to human health or the environment. Pesticides used at former NAS Alameda (and may have been used at the North Housing area) include, but are not limited to chlordane, lindane, and dichlorodiphenyltrichloroethane (DDT), which are now banned (EFA West 1999) (IT 2001).

3.13.9 Lead (Pb)

The following sections address the regulations and the status of lead-based paint (LBP) and lead in drinking water at the North Housing Parcel (Parcel 181 and 182).

On October 28, 1992, Congress passed the Residential LBP Hazard Reduction Act of 1992, Subtitle B, Section 408 , commonly called Title X, codified primarily at 42 U.S.C. § 4851 et seq. and at 15 U.S.C. § 2681 et seq. This Act regulates the use and disposal of LBP at federal facilities. Federal agencies are required to comply with all applicable federal, state, interstate, and local laws relating to LBP activities and hazards.

As defined in the reuse plan for Alameda Point (IT 2001), a basewide LBP survey was performed at all residential structures at Alameda Point in 1995. Inspections followed sampling and testing procedures identified in Housing and Urban Development interim guidelines (1995) for LBP and Pb in dust. The presence of LBP was confirmed in townhouses, apartments, and soil in Parcel 181. Forty-three surface soil samples were collected from Parcel 181. The Pb concentration (1,158 milligrams per kilogram [mg/kg]) exceeded the 1998 PRG (400 mg/kg) in only one sample, all other samples had Pb concentrations less than 100 mg/kg (IT 2001).

In Parcel 182 LBP is likely to be present in Building 534. Samples have not been collected on this parcel. The Navy intended to handle the LBP issues as a disclosure item upon property transfer (IT 2001). It shall be noted that Building 534 is not part of this 42-acre (15-hectare) North Housing Parcel project.

3.13.10 Radiological Activities

General Radioactive Material Program

Potential residual radiological contamination was assessed and summarized in the Final Historical Radiological Assessment, Volume II, for Alameda Naval Air Station (Weston 2007). The primary purpose of the document was to designate sites as impacted or nonimpacted. An impacted site has or historically had a potential for general radioactive material contamination based on the site operating history or known contamination detected during previous radiation surveys. A nonimpacted site is one, based on historical documentation or results of previous surveys, where there is no reasonable

possibility for residual radioactive contamination. The North Housing area was identified as a nonimpacted.

Naval Nuclear Propulsion Program

Nuclear-powered ships have used Alameda Point docks and facilities. All facilities and equipment necessary to service nuclear-powered warships are subject to the guidance of the Naval Nuclear Propulsion Program. Facilities were surveyed to assess whether nuclear-powered warships, during construction, maintenance, overhaul, or refueling, had an adverse radiological impact on the environment (IT 2001).

General Radioactive Material Program

The General Radioactive Material Program includes radiological sources used for testing and instrument calibration, electrical instruments containing radionucleides, and radium illumination dials and gauges. The Radiological Affairs Support Office (RASO) oversees low-level radiological work associated with this program. The RASO conducted a historical use survey in January 1995 to determine the potential radiological sources at Alameda Point. As a result of the record search, the RASO identified Alameda Point IR Sites 01, 02, 05, and 10 as areas that needed additional investigation (IT 2001). Based on later survey, Site 32, which is adjacent to Site 1, was also identified.

Alameda Point IR Sites 5 and 10 are located approximately 4,000 feet (1,219 meters) south-west of the North Housing Parcel, and Alameda Point IR Sites 01 and 02 are located approximately 8,500 feet (2,591 meters) west of the North Housing Parcel. Initial radiological surveys were conducted on IR Sites 01 and 02 in September 1995. As a result of the 1995 surveys, more detailed survey work for Sites 1 and 2 was scheduled to be conducted in the spring of 1996. The additional surveys for Sites 1 and 2 were performed between June and September 1996 and included complete coverage of the northwest point and the jogging trails. None of the anomalous locations found during the radiological surveys of Sites 1 and 2 were determined to present an immediate health hazard to individuals. Subsequent surveys were performed in 2004 and 2006, and a time critical Removal Action was completed in 2008 at Sites 1, 2 and 32. Results are summarized in the Final Time Critical Removal Action Post-Construction Report (Tetra Tech EC, August 2009). Surveys were also completed at Buildings 5 and 400, within IR Sites 05 and 10. Radium-paint was used in these

buildings. Industrial drains and storm sewer drains running from each building were included in the survey. Partial removal of contaminated storm drains was conducted in late 1998. The remaining contaminated storm drains are currently being removed as part of a time critical removal action (NAVFAC SW, 2008). The remaining contaminated storm drains would be removed and contaminated piping identified inside Building 5 and 400 would be grouted (IT 2001).

3.13.11 Medical and Biohazardous Waste

NAS Alameda's Medical/Biological Waste Program is regulated under Cal. Code Regs. tit. 22, Article 13 (EFA West 1999).

The Medical/Dental Clinic (Building 16, Zone 12, and Parcel 83) provided outpatient consultation and general clinical services. The location of Building 16 is approximately 2,500 feet (762 meters) away and southwest of the North Housing Parcel. Small amounts of medical or biohazardous wastes were generated at this location during clinic operations. Wastes were removed and disposed of offsite (EFA West 1999).

Alameda Point IR Site 02 is located approximately 8,500 feet (2,591 meters) west of the North Housing Parcel. According to the NAS Alameda BCP, some medical wastes from the Naval Medical Center Oakland were deposited in the West Beach Landfill. The Navy remediated this site (EFA West 1999).

No medical or biohazardous wastes were identified in Parcels 181 and 182.

3.13.12 Ordnance

Ordnance has been stored and used at NAS Alameda throughout its history as a military facility. Ordnance storage includes ship and aircraft weapons systems, combat force weapons, and small arms and ammunition used by base security personnel. The Navy has removed all ordnance from NAS Alameda prior to 1999 (EFA West 1999). No ordnance was stored at the North Housing Parcel.

3.13.13 Radon

There are no laws that require testing and the remediation of radon, but the USEPA has made recommendations for both residential housing and schools. The USEPA-

recommended action level for radon is 4 picocuries per liter of air (pCi/L) (EFA West 1999). DoD policy regarding radon on BRAC properties is to ensure that any available and relevant radon assessment data pertaining to the BRAC property be included in property conveyance or transfer documents (EFA West 1999).

An evaluation of the regional geological setting concluded that NAS Alameda is unlikely to be subject to radon hazards as a result of low radioactive isotope concentrations found in the rocks and sediments underlying the region. No further radon assessments are planned at NAS Alameda (EFA West 1999).

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CHAPTER 4.0
ENVIRONMENTAL CONSEQUENCES

4.1 LAND USE

This section describes impacts to land use that could occur under Alternative A: Reuse Plan Amendment (Preferred Alternative) and Alternative B: No Action. Impacts to on-site and surrounding land uses are evaluated for each alternative and are compared to baseline conditions as described in Section 3.1. Demolition and construction impacts also are considered when evaluating the potential land use impacts of each alternative. In addition, compatibility with existing plans and policies is analyzed.

4.1.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

As detailed in the project description, Alternative A would result in the reuse of the project area per amended Community Reuse Plan, adopted by the ARRA Board on March 4, 2009. The proposed reuse of the site would include up to 90 affordable rentals for homeless accommodation, 20 to 30 renovated or new duet style homes, an 8-acre (3-hectare) park, 315 two-unit medium-density housing units, and any infrastructure improvements required for the new developments. The reuse and redevelopment of the North Housing Parcel in adherence to the applicable planning policies and guidelines would not create a land use impact, but would further help to achieve the goals of the amended Community Reuse Plan and City of Alameda policies.

The proposed reuse of the site would allow for development and reuse per the amended Community Reuse Plan and City policies. Therefore, design of the proposed reuse development would increase public access to the waterfront, place higher density residential uses near transit corridors, as well as work towards achieving the other planning guidelines as adopted by the City and outlined in Section 1.1 of this document. It is anticipated that the reuse development would, in part, meet future low- and moderate-income housing needs as part of any future residential development consistent with the current R-4 zoning designation.

The proposed residential and park uses on this North Housing Parcel Site would be compatible with surrounding uses, both existing and proposed. Residential

redevelopment has already occurred in the Bayport area located to the south of the project site while reuse plans for Alameda Point to the west and Alameda Landing to the east include residential and mixed uses. The redevelopment of these former NAS Alameda properties, including the North Housing Parcel are all closely guided by the amended Community Reuse Plan and associated City policies with the intent to create a comprehensive and cohesive community.

4.1.2 Alternative B: No Action

Under this alternative, no reuse of the site would occur. The property would be held in an inactive or caretaker status and on-site activities would be limited to security, maintenance, cleanup, and other actions associated with caretaker status. Site environmental cleanup would continue until completed. Existing interim leases would be allowed to expire and no new leases or subleases would be executed.

The lack of reuse of the site would not be consistent with applicable land use plans and policies for the North Housing Parcel. The site would not be redeveloped and would not meet and/or achieve the planning design principles of the Main Street Neighborhoods as outlined in the amended Community Reuse Plan or the City's recently amended General Plan policies. Specifically, no action on the site would eliminate the potential to connect the North Housing Parcel to the waterfront with green streets and open space corridors (planning design principle 5 as listed in Section 1.0 of this document).

4.2 VISUAL RESOURCES

This section describes impacts to visual resources that could occur under Alternative A: Reuse Plan Amendment (Preferred Alternative) and Alternative B: No Action. The analysis focuses on the physical changes associated with the reuse alternatives, as compared to existing baseline conditions described in Section 3.2.

4.2.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Alternative A would redevelop the site with approximately 437 housing units, although the exact development has not been determined at this time. An 8-acre (3-hectare) park would be included in the redevelopment and would likely include large grassy areas for athletic fields along with other typical park components such as playground equipment, picnic tables, etc. All development would be consistent with planning guidelines and zoning applicable to the site.

Because the proposed redevelopment plans include residential and park uses similar to what is currently on-site, the resulting visual impact would not create substantial changes for on- or off-site viewers. The redevelopment would not include structures taller than the existing two-story residential units, thus no additional new off-site views of the site would result and the site's visibility would continue to be those areas immediately adjacent. Sensitive residential viewers from the south and waterfront viewer from the north would continue to have views of the site. These areas would experience views similar to what currently exists as continued residential and park uses are planned for the site. The visual environment would be altered with new or refurbished residential and park elements introduced on the property; however, these changes would likely be visually positive as the redevelopment would provide a coordinated and cohesive community. The visual change would not create additional waterfront view blockages as structures already exist on the property. With proper planning and adherence to applicable policies, the redevelopment could enhance the views to and from the waterfront area through the creation of view corridors.

During the construction phase of Alternative A, the presence of clearing and grading equipment and vehicles may be evident to the area residents and off-site viewers. There could be storage of construction equipment and vehicles, and stockpiles of road materials. The combination of necessary construction activities, equipment storage, and stockpiled construction materials could create a short-term, negative visual

environment. However, construction-related impacts would be temporary and would move throughout the project site based on where construction activities were ongoing.

In the long term, areas immediately surrounding the North Housing Parcel, including Alameda Landing to the east, Bayport to the south, and Alameda Point to the west are planned for redeveloped per the amended Community Reuse Plan. The redevelopment of these areas, along with the North Housing Parcel would create a visually enhanced community with a cohesive aesthetic of a mainly residential development with some mixed uses. The visual environment of the area would be improved for residential viewers located within the property as well as those viewers immediately surrounding the site as the vicinity's unattractive mix of residential uses with old industrial facilities would be replaced with a well-planned community, referred to as the Main Street Neighborhoods in the amended Community Reuse Plan.

4.2.2 Alternative B: No Action

Under the No Action Alterative, the residential units on the North Housing Parcel would remain as they currently are in their unoccupied state. The property would be maintained by a caretaker with activities limited to security, maintenance, and general cleanup. In the immediate term, there would be no visual change to the property. There would be no sensitive viewers on the site as the residential units would be unoccupied. No visual construction impacts would occur, as no construction activities would take place.

Though the property would be minimally maintained by a caretaker if the No Action Alternative was implemented, it can be reasonably assumed that the existing structures on the North Housing Parcel would become dilapidated after years of standing vacant and become a visual blight to the surrounding areas. This visual deterioration of the site in the long term would become more distinct and be visually out of character as the surrounding areas, including Alameda Landing to the east, Bayport to the south, and Alameda Point to the west are redeveloped as planned in the amended Community Reuse Plan.

4.3 SOCIOECONOMICS

This socioeconomic analysis describes impacts on population, housing, schools, recreation, and employment that could occur under the Preferred Alternative (Alternative A), and the No Action Alternative (Alternative B). Impacts are analyzed against the baseline conditions identified in Chapter 3. In addition, issues related to environmental justice and issues related to the protection of children are presented within each Alternative.

4.3.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Population and Housing

At buildout, Alternative A would add 437 homes to the available housing stock of 31,801 homes in the City of Alameda, which would be an increase of 1.4 percent within the City and an increase of 0.07 percent within Alameda County as a whole. Using the average number of persons per household for the Oakland PMSA, which would likely be the area from which new residents under Alternative A would be drawn, an estimated 1,197 new residents would be located in the housing proposed under Alternative A. Of course, not all new Alternative A residents would be immigrants to the City of Alameda; however, if 100 percent migration was the case, the addition of 437 new households would account for a 1.6 percent increase within the City of Alameda, which is markedly higher than the projected annual average growth for the City of Alameda from 2007 to 2020 (0.8 percent). Regional changes in population and housing are considered neither beneficial nor adverse.

Schools

Table 4.3-1 presents the projected growth in the number of students assuming 437 new low-income households are added to the community under Alternative A. Using approximate student generation rates (described above), it is estimated that 319 new students would be added to the AUSD. The addition of these new students raises the capacity percentage of the AUSD as a whole to 83.0 percent. However, the students who would live in the proposed Alternative A housing would likely only attend three AUSD schools: Ruby Bridges Elementary, Chipman Middle, and Encinal High. The statistics provided in Table 3.3-4 suggest that Chipman Middle School and Encinal High School have open capacity to meet the additional students anticipated under Alternative

A (Table 3.3-5). Ruby Bridges Elementary School, however, may experience slight capacity issues under Alternative A, with anticipated capacity nearing 125 percent with the addition of 165 more students. It should be noted Ruby Bridges Elementary recently added two additional classroom trailers to the site, potentially increasing capacity by 58 students. These additional classrooms were added after the AUSD statistics presented in Table 3.3-4 were compiled. It is likely that the additional classroom space would help Ruby Bridges Elementary School accommodate some of the additional students under Alternative A, but not all. The implementation of Alternative A would likely result in the need to construct a new elementary school, or arrangements within the AUSD to allow students to attend school outside of their official school zone.

Table 4.3-1
Alameda Unified School District Enrollment and Capacity, Alternative A

AUSD Enrollment and Capacity	Alternative A
Total for Alameda Unified School District	
Total Increase in Enrollment Due to Alt. A	319
AUSD Enrollment Plus Increases Due to Alt. A	10,282
AUSD School Capacity	12,384
Enrollment and Alt. A as a Percentage of Capacity	83.0%
AUSD Local Schools in Area Near Alt. A	
Local Enrollment Plus Increases Due to Alt. A	2,467
Local School Capacity	3,265
Enrollment and Alt. A as a Percentage of Capacity	75.6%
At Elementary Schools	124.5%
At Middle Schools	69.1%
At High Schools	68.8%

Source: AUSD 2009

The California State legislature has determined that fees paid by the developer in accordance with the School Facilities Mitigation Fee are considered complete mitigation for school capacity-related impacts and the provision of adequate educational facilities. The payment of this fee by the developer would reduce this impact to a less than significant level.

Recreation

Alternative A would create a public park by converting 8 acres (3 hectares) of open space at the North Housing Parcel. This new park under Alternative A would host a variety of youth sports activities, and the existing baseball field would likely be

renovated. This would increase the existing number of public, non-limited access acres in the City of Alameda from 205 to 213, which is an increase of 3.9 percent. This additional acreage would increase the ratio of park uses to the local population to slightly higher than the 2.1 acres (0.8 hectares) per 1,000 residents cited in the Northern Waterfront General Plan Amendment (City of Alameda 2006). Impacts to recreation are considered slight, but beneficial.

Employment

During the remodeling and construction phase of Alternative A, short-term economic and employment benefits are likely, but these benefits are expected to be relatively limited and not tightly concentrated in the immediate project area. Some local economic activity would be generated through the local purchase of construction goods and services. Further, construction activity would provide some additional employment in the local area during this phase of the project. It is assumed, however, that the labor pool within easy commuting distance of Alternative A is adequate to meet the requirements for construction workers. As a result, no increased demand for housing or transient labor associated with the remodeling and construction phases is anticipated, nor are substantial numbers of new hire of local residents in the immediate vicinity likely, even on a short-term basis.

Under the operational phases of Alternative A (post-construction), no other additional direct or indirect employment is expected to be generated by Alternative A, as the preferred alternative does not include new commercial or industrial uses. Impacts to employment are considered slight and temporary, but beneficial.

Environmental Justice

Despite the presence of areas with high proportions of minority and low-income residents in proximity to the proposed action location, no significant impacts are anticipated to result from Alternative A. Thus, there is no indication that Alternative A would disproportionately affect minority or low-income populations. To the contrary, the development of the parcel will include the addition of low-income housing units into the community and will include homeless accommodation consisting of approximately 90 units of permanent, service-enriched affordable rental housing. This redevelopment will serve to benefit under-represented groups in the community.

Protection of Children from Environmental Health Risks and Safety Risks

Despite the North Housing Parcel being in proximity to two schools, no significant health and safety risks are anticipated to result from Alternative A. Thus, there is no indication that Alternative A would create new health or environmental impacts to children.

4.3.2 Alternative B: No Action

Under Alternative B, the Navy would retain ownership of the property and it would be held in an inactive or caretaker status. No impacts to population, housing, schools, recreation, or employment would occur. Minority and low-income populations would not be disproportionately affected. No new health or environmental impacts to children would occur.

4.4 PUBLIC SERVICES

This section identifies potential impacts to public services that may result from Alternatives A and B. Police, fire, and emergency public services are evaluated. Impacts are analyzed against baseline conditions as described in Section 3.4.

4.4.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Police Services

Alternative A would slightly increase the need for police emergency services in the project area as it is estimated that 1,197 new residents would be added to the local population. The City of Alameda Police Department would continue to provide law enforcement services to this area. At this time, it is assumed that the City would be able to provide adequate police service to the parcel and there would be no significant impacts. However, at the time of development, the City would need to confirm the availability of adequate police service.

Fire Protection

The need for fire protection services in the project area would be slightly increased under this alternative as it is estimated that 1,197 additional residents would be added to the local population. The City of Alameda Fire Department would continue to provide fire protection services to this area. As the Fire Department currently staffs the former NAS Alameda fire station in the immediate vicinity of the project area, there would be rapid-fire protection response time to the area. At this time, it is assumed that the City would be able to provide adequate fire protection service to the parcel and there would be no significant impacts. However, at the time of development the City would need to confirm the availability of adequate fire protection service.

Emergency Medical Services

The need for emergency medical services in the project area would be slightly increased under this alternative as it is estimated that 1,197 additional residents would be added to the local population. Emergency medical services would continue to be provided to the project area by the Fire Department. As the Fire Department currently staffs the former NAS Alameda fire station in the immediate vicinity of the project area,

there would be rapid emergency medical services response time to the area. At this time, it is assumed that the City would be able to provide adequate emergency medical services to the parcel and there would be no significant impacts. However, at the time of development, the City would need to confirm the availability of adequate emergency medical services.

4.4.2 Alternative B: No Action

There would be no new impacts to public services under the No Action Alternative. The City of Alameda police and fire departments would continue to provide police, fire, and emergency medical services to the project area.

In the event the project area was held in caretaker status for an extended period of time the structures and surrounding areas could deteriorate and become more susceptible to break-ins and vandalism. This, in turn, could cause an anticipated increase in police, fire and emergency services for responses to incidents (such as break-ins, theft, fire, etc.).

4.5 UTILITIES

This section identifies potential impacts to utilities that may result from Alternatives A and B. The utility systems evaluated include those for water supply and distribution, sanitary wastewater, storm water, solid waste, telephone, electricity, natural gas, and cable television. Impacts are analyzed against baseline conditions as described in Section 3.5.

4.5.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Water Supply and Distribution

Alternative A would result in an increase in the project area's demand for water supply and distribution as the resident population is estimated to increase by 1,197 people in 437 housing units. The area's larger water supply and distribution infrastructure, including the main water lines and the storage and distribution systems are already in place. However, these systems are outdated and may not have the capacity or be configured correctly to accommodate future development. As new housing units are developed the individual entities would be required to ensure adequate water lines be installed to the housing units and that the overall water supply and distribution system is adequate for the new developments. The EBMUD would continue to be responsible for the area's water supply and distribution needs (Cook 2009).

EBMUD's Policy 8.01 requires that customers use non-potable water for non-domestic purposes when it is of adequate quality and quantity, available at reasonable cost, not detrimental to public health and not injurious to plant life, fish, and wild life to offset demand on EBMUD's limited potable water supply. The proposed project site is located with the service area boundary of EBMUD's East Bayshore Recycle Water Project. As part of the water supply planning, EBMUD will consider the feasibility of providing recycled water to the area for appropriate uses including landscaping irrigation, commercial applications, industrial process uses, and other applications. The individual entities would coordinate with EBMUD regarding the feasibility of providing recycled water for appropriate non-potable purposes. Provided that adequate service is provided for the new development, no significant impacts to water supply and distribution would occur.

Sanitary Wastewater

As the number of residents in the project area is estimated to increase by 1,197 people in 437 housing units under Alternative A, this would result in an increase in the project area's demand for sanitary wastewater services. Currently wastewater facilities are in place, but are outdated and may need to be reconfigured to accommodate future development. As new housing units are developed, the individual entities would be required to ensure adequate wastewater services are in place. The EBMUD would continue to be responsible for sanitary wastewater services to the area (Cook 2009). Provided that adequate service is provided for future development no significant impacts to wastewater would occur.

Storm Drainage

There would be a slight impact from Alternative A on the project site's storm drainage system. The existing system removes excess storm water from the project area's existing housing development. Under this alternative, the housing development design would be altered and new housing units constructed in an altered design on the 42-acre (15-hectare) property. Prior to development, the storm drainage infrastructure would need to be evaluated to determine if the current configuration is adequate. If it is determined that changes to the storm drainage system are warranted, the individual entities would make the appropriate changes to the system. EBMUD would continue to be responsible for storm water services to the project area. Provided that an adequate service storm drainage system is in place for future development, no significant impacts would occur.

Solid Waste

Solid waste from the project area is collected and disposed of by ACI, which serves the City of Alameda. These services would continue to be provided by U.S. Eagel under this alternative; however, the amount of solid waste generated would increase. This would not be considered a significant impact.

Telephone

Under this alternative there would be minimal impact to telephone services as the project area's telephone services would continue to be provided by a "market driven" supplier (Cook 2009). Therefore no significant impacts would occur.

Electricity

Alternative A would result in an increase in the project area's demand for electricity as the resident population is estimated to increase by 1,197 people in 437 housing units. The general area's larger electrical supply and distribution infrastructure, including the electrical distribution lines is already in place. However these systems are outdated and may not have the capacity or be configured correctly to accommodate future development. As the new housing units are developed, the individual entities would be required to ensure adequate individual electrical distribution lines to the individual housing units, as well as adequate capacity of the overall system. AP&T would continue to be responsible for the area's electrical supply and distribution needs. Provided that adequate electrical service is in place for future development, no significant impacts would occur.

Natural Gas

There would be an increase in the project area's demand for natural gas under Alternative A. This would be due to the proposed population increase of 1,197 people in 437 housing units on the 42-acre (15-hectare) site. The area's larger natural gas supply and distribution infrastructure, including the main gas lines, is already in place. However, these systems are outdated and may not have the capacity or be configured correctly to accommodate future development. As the new housing units are developed, the individual entities would be required to ensure adequate individual natural gas lines to the individual housing units, as well as ensure adequate capacity of the overall system. Pacific Gas and Electric would continue to be responsible for the project site's natural gas supply and distribution needs (Cook 2009). Provided that adequate natural gas service is in place for future development, no significant impacts would occur.

Cable Television

Under this alternative there would be no impact to cable television services to the project area as cable television services would continue to be provided by COMCAST (Cook 2009).

4.5.2 Alternative B: No Action

There would be no impacts to utilities under the No Action Alternative. The current utility providers would continue to be responsible for providing adequate levels of water, wastewater, storm water, solid waste, telephone, electricity, natural gas, and cable television services to the project area.

4.6 CULTURAL RESOURCES

4.6.1 Regulatory Considerations

Cultural resources are subject to review under both federal and state laws and regulations. Section 106 of the NHPA of 1966, as amended, empowers the Advisory Council on Historic Preservation to comment on federally initiated, licensed, or permitted projects affecting cultural resources listed or eligible for inclusion on the NRHP.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may be the result of physically altering, damaging, or destroying all or part of a resource, altering characteristics of the surrounding environment that contribute to the importance of the resource, introducing visual or audible elements that are out of character for the period the resource represents (thereby altering the setting), or neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts can be assessed by identifying the type and location of a proposed action and by determining the exact locations of cultural resources that could be affected. Indirect impacts are those that may result from a change in activity levels or other occurrence that is a byproduct of a proposed action, such as the effect of increased vehicular or pedestrian traffic in the vicinity of the resource.

4.6.2 Built Alternative (Preferred Alternative)

Impacts

As detailed in the project description, the Built Alternative would result in the reuse of the site per the amended Community Reuse Plan. The proposed reuse of the site would include up to 90 affordable rentals for homeless accommodation, 20 to 30 renovated or new duet style homes, an 8-acre (3-hectare) park, and associated infrastructure improvements, with any remaining area utilized for market rate residential development. Based on the 1996 PAR Environmental Services report titled “Fleet Industrial Supply Center – Alameda Annex/Facility and Naval Air Station Alameda Family Housing.” and the Navy’s March 2009 evaluation of the buildings, structures, and open spaces (documented on a Department of Parks and Recreation (DPR 523) site form), the Navy made a finding of effect of “no historic properties affected” in the project

area (Appendix A). A SHPO concurrence letter was received 17 June 2009 (Appendix A). Therefore, no cultural resources would be impacted.

Mitigation Measures

As no significant resources would be affected, no mitigation measures are proposed.

4.6.3 No Built Alternative

Impacts

Under this alternative, no reuse of the site would occur. The property would be held in an inactive or caretaker status and on-site activities would be limited to security, maintenance, cleanup, and other actions associated with caretaker status. As no action would be undertaken under this alternative, no historical or cultural resources would be impacted.

Mitigation Measures

As no significant resources would be affected, no mitigation measures are proposed.

4.7 BIOLOGICAL RESOURCES

This section describes impacts to biological resources that could occur under Alternatives A or B at the 42-acre (15-hectare) NAS Alameda North Housing Area site. Issues examined include sensitive species, sensitive habitats, and nonsensitive species and habitats. Impacts are analyzed against operational baseline conditions, as described in Section 3.7. Since there have been no significant changes in the environmental condition or proposed use of other remaining surplus property at NAS Alameda as addressed in the 1999 FEIS, the impacts to biological resources specific to that land may be referred to for contextual purposes but are not addressed further in this section.

Region of Influence (ROI)

The ROI for biological resources includes NAS North Housing Area, the greater NAS Alameda/FISC Alameda, and surrounding habitats within a 1-mile (1.6-kilometer) radius. This 1-mile (1.6-kilometer) radius was selected because this area includes sensitive species and habitats that could be affected by reuse activities. As discussed in Section 3.7, some sensitive species observed offsite within the ROI may also use habitat at the NAS Alameda North Housing Area.

Planning Issues

Sensitive Species

The Navy completed a Biological Assessment in compliance with the consultation requirements of Section 7 of the Endangered Species Act, to address the impact of the disposal and reuse of the NAS Alameda/FISC Alameda properties (U.S. Navy 1999). The USFWS issued a Biological Opinion on March 22, 1999 (U.S. Navy 1999) indicating that the Navy property disposal and subsequent community reuse of NAS Alameda/FISC Alameda would not jeopardize the continued existence of federally endangered or threatened species or result in adverse modification of critical habitat. Measures included in the Biological Opinion to protect endangered species, particularly the California least tern and the California brown pelican, are described in detail in the 1999 FEIS. Most of these measures apply to lands occupied by the tern colony and those immediately adjacent, which are located approximately 1 mile (1.6 kilometers) west of the NAS Alameda North Housing Area. The 42-acre (15-hectare) subject

property is separated from natural habitats and the tern colony by several blocks of intensively developed area.

Because no critical habitat, as defined by the Endangered Species Act, has been designated for endangered or threatened species occurring on property available for conveyance to non-federal entities at NAS Alameda/FISC Alameda, or NAS Alameda North Housing Area, none would be adversely modified or destroyed.

4.7.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Currently, the North Housing Parcel consists of approximately 282 three- and four-bedroom military family housing units, a park, and roads and infrastructure that supported the housing units. The proposed reuse of the site would include homeless accommodation consisting of approximately 90 units of permanent, service-enriched affordable rental housing. In addition, Habitat for Humanity East Bay would renovate 20 to 32 townhomes or build 20 to 30 new duet-style homes or some combination thereof, and up to 317 new market rate housing units would be developed. The reuse plan also includes a community center and property management offices.

The ARPD also has submitted a PBC proposal to utilize approximately 8 acres (3 hectares) of existing open space at the North Housing Parcel as a public park providing a variety of youth sports activities Therefore, the overall land use would remain similar to the current conditions and there would not be substantial change to biological resources onsite.

Nonsignificant Impacts

Increased Predation of the California Least Tern

The proposed reuse plan for the NAS Alameda North Housing Area is not expected to impact the breeding success of the California least tern. Given the current developed/ landscaped state of the property and intense development in immediately surrounding areas, the reuse plan will not introduce additional development that would decrease open space buffers. Increased human activity and inhabitation on the site may contribute to an increase in the predator population of the area (i.e., domestic pets, attraction of crows, raccoons, etc. to garbage cans). However, as compared to baseline conditions, this increase in people and animals is minimal.

The USFWS has identified in its Biological Opinion (USFWS 1999) measures it considers necessary to avoid predatory taking of endangered or threatened species during reuse of NAS Alameda/FISC Alameda under the Reuse Plan Alternative. These measures include implementing predator management plans and prohibiting the feeding of feral cats. Consultation with the USFWS has been reinitiated for the portion of the NAS west of Main Street, excluding the project area. The 1999 Biological Opinion established that predator management measures were not needed east of Main Street, which is expected to be maintained in the current consultation.

The increased presence of people in the NAS Alameda North Housing Area is not expected to result in a loss of individuals or disruption of breeding based on the distance of the site from the tern colony (approximately 1 mile [1.6 kilometer]). As compared to baseline conditions, this increase in people and animals is minimal. Human and domestic or feral animal access into the USFWS Wildlife Refuge from the NAS Alameda North Housing Area would not be a significant impact.

Pollutants in Stormwater Runoff

Use and maintenance of a new residential neighborhood and parks could introduce pollutants, including oil and grease, herbicides, pesticides, and fertilizers into stormwater runoff. Runoff could enter the nearby water body (Oakland Inner Harbor).

The acquiring entity would be required as part of the project design to develop and implement stormwater management and monitoring plans. In addition, planting and herbicide, pesticide, and fertilizer application plans, including a pesticide drift control plan, for the park and public open space areas would be expected to be developed for the project. These plans should emphasize the minimal use of herbicides, pesticides, and fertilizers. The proposed park would be designed to minimize chemical inputs. The development would be required to meet California RWQCB stormwater management programs and requirements. The impact would be nonsignificant as a result of development and implementation of project design plans to minimize the pollutant load in stormwater runoff.

American Peregrine Falcon

American peregrine falcons forage in the central bay and nest on the Bay Bridge and Golden Gate Bridge. The Reuse Plan Alternative would not substantially change the

habitat of the falcon's common prey (small birds); therefore, this species is unlikely to be affected by development proposed under the Reuse Plan Alternative. Measures that would enhance American peregrine falcon habitat, such as additional roosting sites at NAS Alameda North Housing Area, would not be encouraged because of the potential for falcons to take least terns.

Nesting Birds and Roosting Bats

Ornamental vegetation and existing structures provide potential nest or roost sites for several bird and bat species that are considered sensitive as well as several common bird species that are protected under the Migratory Bird Treaty Act. The proposed reuse alternative will maintain a similar condition with residential structures, interspersed with ornamental trees, lawns, and a park. Therefore, the site will continue to provide potential habitat for nesting birds or roosting bats and these species are unlikely to be affected by implementation of the plan. There is some potential for disturbance of these species during construction. The acquiring entity would be required to implement pre-construction surveys to avoid nest or roost sites and conduct relocation if necessary in coordination with the CDFG. The impact would be nonsignificant as a result of these minimization and avoidance measures.

Nonsensitive Species and Habitats

Development of the various project facilities under the Reuse Plan Alternative could result in removal of nonsensitive species and habitat on the facility. Given its developed nature, the North Housing Area does not support significant biological resources. Landscaped areas are dominated by nonnative plants that provide limited habitat for native wildlife, although nonsensitive species do use this remaining habitat. Much of this habitat is nonnative vegetation and therefore does not provide the higher food, cover, and nesting values associated with wetlands or habitats important for sensitive species. Any nonnative vegetation removed would likely be replaced by additional landscaping around the homes and park, allowing continued use of the site by common animal species. Therefore, the potential removal of such habitat represents a nonsignificant impact.

4.7.2 Alternative B: No Action

Maintaining NAS Alameda North Housing Area in caretaker status would not result in significant impacts to biological resources. Public access to the site would be limited.

Nonsignificant Impacts

Existing trees, grassy vegetation and buildings would continue to provide foraging habitat as well as potential nest and roost sites for birds and bats. Common wildlife species would continue to utilize the site. Remediation activities would continue, and USFWS would be consulted if impacts to listed species and their habitats would occur; however, none are anticipated.

4.8 GEOLOGY AND SOILS

This section describes impacts to geology and soils that could occur under Alternatives A and B. Impacts are analyzed against baseline conditions as described in Section 3.8.

4.8.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Seismic Shaking

The Bay Area is a region of high seismic activity with numerous active and potentially active faults. Major earthquakes have affected the region in the past and are expected to occur in the near future on one of the principal active faults in the San Andreas Fault System. The U.S. Geological Survey (USGS) Working Group on California Earthquake Probabilities determined there is a 62 percent likelihood of one or more earthquakes of magnitude 6.7 or greater occurring in the Bay Area within the 30-year period from 2002 and 2032 (USGS 2003). Ground-shaking intensity is partly related to the size of an earthquake, the distance to the site, and the response of the geologic materials that underlie a site. As a rule, the greater the earthquake magnitude and the closer the fault rupture to a site, the greater the intensity of ground shaking. As stated is Section 3.8 the closest active faults to the project site are the Hayward fault, east of the site, and the San Andreas fault, west of the project site. No active faults have been mapped on the project site.

It is likely that if a seismic event were to occur along one of the above mentioned fault zones, the site would experience seismic movement. However, conditions specific to the North Housing Parcel do not create a greater earthquake hazard than other areas located throughout the seismically active Bay Area. Required compliance with the Uniform Building Code and the incorporation of appropriate design criteria would minimize impacts resulting from regional seismicity. With appropriate structure design and seismic measures, impacts from seismic activity would not be adverse.

Soils

Other geologic hazards at the project site include liquefaction, differential settlement, and expansive soils. Liquefaction is the temporary transformation of loose saturated cohesion-less soils from a solid state to a liquefied stated as a result of seismic ground

shaking. Loose saturated sands with a high potential for liquefaction have been identified at the project site.

Past damage as a result of liquefaction was experienced at the NAS Alameda during the 1989 Loma Prieta earthquake. In addition, the California Geological Survey (CGS) has identified Seismic Hazard Areas as part of the Seismic Hazard Mapping Act (SHMA) that maps areas that have shown historical occurrences of liquefaction or contain conditions for a high potential of liquefaction. In a map produced in 2003, the entire Alameda Island was located in a Seismic Hazard Area for liquefaction (CGS 2003). Therefore, redevelopment of the site would be required to follow certain requirements of the SHMA.

The subsurface materials at the project site are also poorly consolidated and can, upon loading, undergo consolidation which leads to substantial settlement. Consolidation can occur over a period of many years. Significant settlement has been observed in the vicinity of the project site at the NAS Alameda. The Bay Mud underlying the site can, in general, exhibit expansive properties. Expansive soils possess a “shrink-swell” behavior, which is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may occur over a long period, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils.

Policies to minimize the potential effects of liquefaction are required as part of the reuse plan. These policies include preparation of a soils and geologic report to evaluate the risk from liquefaction. Following the required CBC and UBC as well as the requirements of the SHMA as part of the building design, the site impacts from liquefaction, differential settlement, and expansive soils would not be adverse.

4.8.2 Alternative B: No Action

The possible geology and soils impacts under this alternative would be similar to those listed under Alternative A.

4.9 WATER RESOURCES

This section describes impacts to water resources that could occur under Alternatives A and B. Issues examined include stormwater runoff, surface water quality, flooding potential, and groundwater quality and quantity. Impacts are analyzed against the baseline conditions described in Section 3.9 for areas including the NAS Alameda North Housing Area project site, immediately adjacent areas, underlying groundwater basins, and surrounding water bodies (Oakland Inner Harbor, NAS Alameda Inner Harbor, Seaplane Lagoon, and eastern San Francisco Bay) that could be affected by the project action.

Planning Issues

Any new development at the North Housing Disposal project site would be required to comply with the City's Stormwater Management and Discharge Control Program performance standards and applicable parts of the Stormwater Management Plan for the Alameda County Urban Runoff Clean Water Program, which are intended to implement the County and City NPDES permit (No. CA 0029831). Those plans and the NPDES permit apply to stormwater generated during both construction and operation of the project facilities.

New development also would be required to comply with the City's General Plan policies regarding dredging and water quality protection policies enumerated in Sections 5.1 and 8.3 of the City's General Plan. Development on the site would be subject to flood protection policies contained in Section 8.3 of the City's General Plan, as well as FEMA flood insurance program policies (U.S. Navy 1999).

4.9.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Surface Water Quality

Demolition of existing structures and new building construction could result in soil disturbance and increased erosion and sedimentation into the Oakland Inner Harbor. Any hazardous soils encountered during demolition or construction will need to be identified and contained, and/or avoided.

Construction equipment and operations (such as storage of construction materials and debris) may result in spills and other accidental emissions of pollutants, which could enter and pollute the surrounding water bodies. In addition, increased use of the currently unused project site, including roads, parking lots, and park turf areas, could introduce pollutants, including oil and grease, herbicides, pesticides, and fertilizers, into runoff. All of these potential impacts would be addressed through implementation of standard regulatory requirements, including the development of a SWPPP that would include construction and development BMPs, and City/County conditions of approval for specific projects.

The Oakland Inner Harbor is listed on the 2006 CWA Section 303(d) List of Water Quality Limited Segments as impaired for nonpoint source pollutants including pesticides, PCBs, and metals. As a result, pollutant-specific BMPs may be mandated by City/County stormwater requirements.

Flood Hazards

Redevelopment of the North Housing Area project site should consider the effects that projected sea level rise could have on tidal and non-tidal flooding of low-lying areas of the site. Parts of the site under an elevation of approximately 9.5 to 10 feet (2.9 to 3.0 meters) AMSL could be flooded periodically should the sea level rise 0.5 foot (0.1 meter) or more, if not adequately protected. The only areas of the project site that fit this criterion are north of the northern-most section of the Mosley Avenue loop, in the northwest corner of the site (U.S. Navy 1999). Before construction, individual entities should request a Letter of Map Revision (LOMAR) from FEMA in order to delineate flood hazards associated with the North Housing Parcel per the regional flooding hazard mapping program. If any portions of the North Housing Parcel are found to be within the 100-year flood hazard zone, housing and other activities susceptible to flooding should be place outside of the flood hazard zone. Additionally all new development would need to be constructed to account for an 18 inch (0.46 meter) rise in sea level. At this time the Alameda Point Reuse Development project is proposing the construction of a levy. If the levy is constructed, this would eliminate the need for future development to be elevated to account for sea level rise.

Groundwater

The proposed project would not result in any significant adverse effects related to the groundwater supply, provided any stormwater detention systems are designed as lined

units that do not allow percolation to the earth. No extraction or injection is proposed as part of the project and thus, no significant impacts to deep aquifers would result.

4.9.2 Alternative B: No Action

Maintaining the North Housing Area project site in caretaker status would result in few impacts to water resources since there would be minimal use of the site. Although the site would be the source of fewer pollutants due to its minimal use, BMPs implemented under Alternative A to improve the quality of stormwater runoff from existing roads and parking areas would not be constructed.

The No Action Alternative would present no impacts to flood hazards, stormwater drainage, or groundwater.

4.10 TRAFFIC AND CIRCULATION

4.10.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Alternative A proposes a change in use of the project area that will have an effect on the surrounding traffic network.

Trip Generation

Alternative A would include the construction (or reconstruction) of 437 housing units and utilizing 8 acres (3 hectares) of open space as a public park. The project would replace 282 existing housing units that are currently vacant. Credits are not given to the existing units, since they are not being actively used. Table 4.10-1 summarizes the trips that would be generated by Alternative A.

A 15 percent transit reduction was applied to account for a higher use of mass transit. This rate is consistent with other studies that have been done in the City of Alameda. With the existing traffic congestion in the tubes and bridges that cross the estuary from Alameda to Oakland and surrounding communities and the available mass transit within the City of Alameda, this rate is reasonable. Discussion of available and planned mass transit was provided in Section 3.10. Further, since the new units are for lower income housing, it is assumed that mass transit will be used more frequently, and vehicular trips would not be as high.

Trip Distribution and Assignment

Trip distribution patterns were created based on distribution patterns used in the *Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Alameda and Fleet and Industrial Supply Center* (1999). Different trip distributions are provided for the morning and afternoon peak hours. The general trip distributions are as follows:

53 percent to/from Oakland via the Posey and Webster Tubes
18 percent to/from West Alameda
18 percent to/from East Alameda
9 percent to/from Oakland via the Park Street Bridge
2 percent to/from the Bay Farm Island Bridge

Table 4.10-1
Trip Generation Summary

Land Use	Land Use as Listed in ITE[a]	Units[b]	Trip Rate[c]	Daily Trips	AM Peak-Hour					PM Peak-Hour				
					% of ADT[c]	In:Out Ratio[c]	In	Out	Total	% of ADT[c]	In:Out Ratio[c]	In	Out	Total
Driveway Trips[e]														
Proposed														
Build new	Homeless Shelter	90 du[d]	2 / bed	540	8%	0.20:0.80	8	33	41	9%	0.65:0.35	33	17	50
Renovate existing	Apartment	32 du	6.65 / du	213	8%	0.20:0.80	3	13	16	9%	0.65:0.35	13	7	20
	City Park	8 ac	1.59 / ac	13	10%	0.80:0.20	1	0	1	10%	0.41:0.59	1	0	1
Multi-Family Housing	Apartment	315 du	6.65 / du	2,095	8%	0.20:0.80	32	129	161	9%	0.65:0.35	127	68	195
Net Trip Generation				**2,860**			**44**	**175**	**219**			**174**	**92**	**266**
With Transit Reduction (15%)				**2,431**			**37**	**149**	**186**			**148**	**78**	**226**

[a] ITE = Institute of Transportation Engineers
[b] DU = Dwelling Unit; AC = acres
[c] Apartment and City Park trip rates references from ITE Trip Generation, 8th Edition. Homeless Shelter daily trip rate referenced from the City of San Diego Land Development Code - Trip Generation Manual, May 2003.
[d] It is assumed three beds are available per Homeless Shelter unit.
[e] Driveway trips are the total number of trips generated by a site.

The trip generation was applied to the trip distribution to get trip assignments. Trips generated from the project were then added to Year 2030 No Action traffic volumes to obtain Year 2030 Alternative A volumes. Figures illustrating the Alternative A trip distribution and assignment, and resulting Year 2030 Alternative A traffic volumes are provided in Figures 4.10-1 to 4.10-4, respectively.

Intersection Analysis

An analysis of Year 2030 Alternative A conditions at each of the study intersections indicates that each intersection would continue to operate at an acceptable LOS, with the exception of one intersection. The unsignalized intersection of Stargell Avenue and Mosley Avenue will operate at LOS E conditions for the southbound approach of Mosley Avenue. This approach serves only 75 vehicles per hour in the morning peak hour and 53 vehicles per hour in the afternoon peak hour. This volume is not large enough to warrant changes to an all-way stop or traffic signal operation. As such, no improvements are needed and no traffic impacts to the intersections were identified. The results of the intersection analysis for are contained in Table 4.10-2.

Roadway Segment Analysis

Table 4.10-3 displays the peak hour roadway segment analysis for the Posey and Webster Tubes with the addition of the Alternative A traffic. As shown in the table, the amount of traffic added to the tubes is less than three percent of the total traffic. The tubes will continue to operate at LOS F conditions with and without Alternative A traffic.

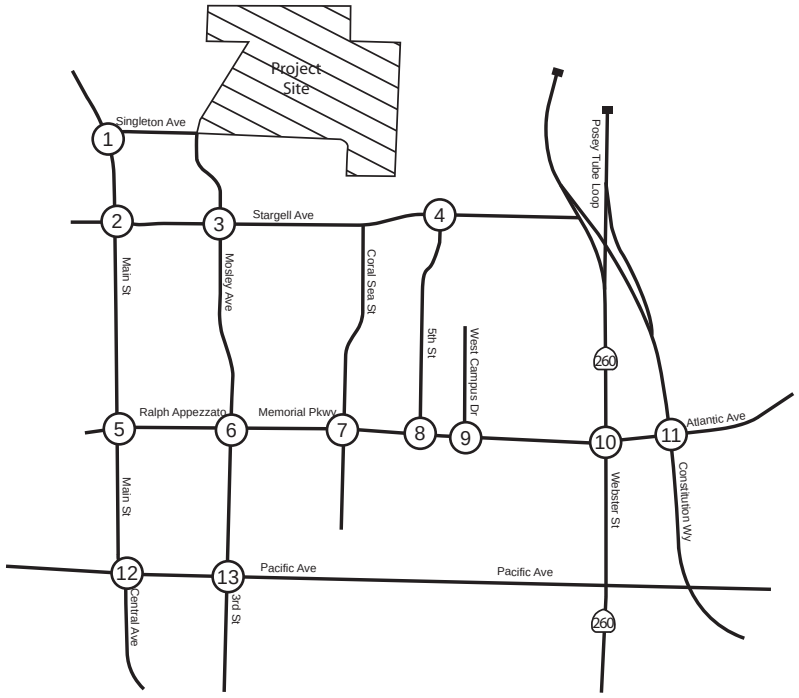
Construction Traffic

The City of Alameda does not have specific significance criteria for construction period impacts. However, developments are required by the City to prepare a Traffic Control Plan (TCP) designed to address construction period effects. The TCP would include features such as construction truck routes and access to the project site, addressing lane closures if necessary, restoring affected street surfaces to pre-construction conditions on roadways affected by construction vehicles, a signage program, and restrictions on construction hours.

1 Main St (14%) (14%) (42%) 14%	Singleton Ave (70%) 20% 48% 14%	**2** Main St (70%) Midway Ave 48%	Stargell Ave	**3** Mosley Ave (30%) 40% 12%
Stargell Ave 40%	**4** 5th St	**5** Main St (14%) (14%) (42%) 14%	Ralph Appezzato Memorial Pkwy 20% 14%	**6** Mosley Ave (5%) (25%) (42%) 3rd St
Ralph Appezzato Memorial Pkwy 7% 20% 5%	**7** Coral Sea St 27% (67%) Poggi St	Ralph Appezzato Memorial Pkwy	**8** 5th St 27% (67%)	Ralph Appezzato Memorial Pkwy
9 W Campus Dr 27% (67%)	Ralph Appezzato Memorial Pkwy	**10** Webster St 17% 10% (52%) (15%)	Ralph Appezzato Memorial Pkwy	**11** Constitution Wy 5% (5%) (5%) (5%) 5%
Ralph Appezzato Memorial Pkwy	**12** Main St (9%) (5%) 5% Central Ave 9%	Pacific Ave	**13** 3rd St (5%) 5% 5% (5%)	Pacific Ave

Legend

X% / (Y%) = IN / OUT PERCENT DISTRIBUTION



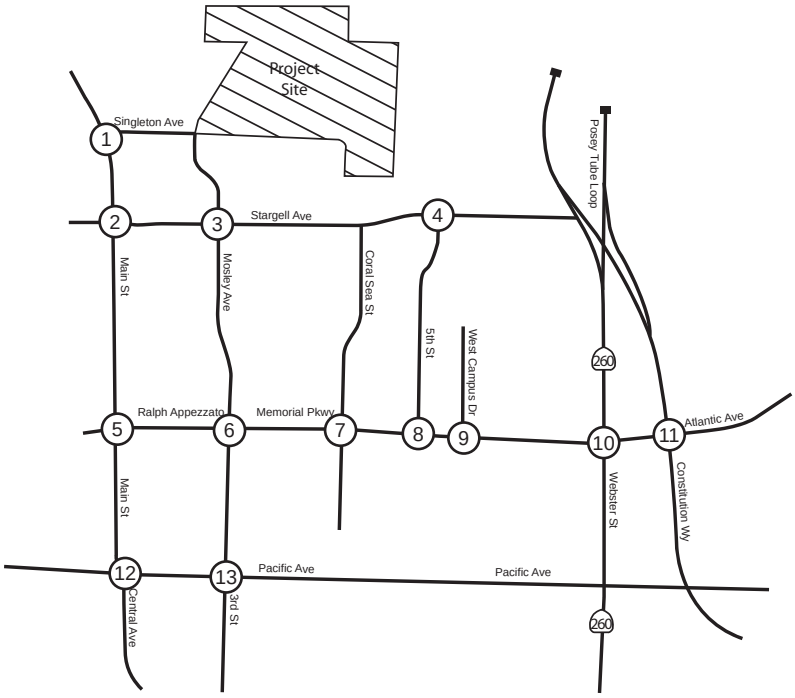
NOT TO SCALE

Figure 4.10-1
AM Project Trip Distribution - Study Intersections

1 Main St (70%) Singleton Ave 47%	**2** (70%) Main St Midway Ave Stargell Ave 47%	**3** (30%) Mosley Ave 40% Stargell Ave 13%	**4** 40% Stargell Ave 5th St
5 (23%) (14%) (33%) Main St 10% Ralph Appezzato Memorial Pkwy 23% 14%	**6** (5%) (25%) Mosley Ave 8% 10% Ralph Appezzato Memorial Pkwy (33%) 3rd St 5%	**7** Coral Sea St 18% Ralph Appezzato Memorial Pkwy (58%) Poggi St	**8** 5th St 18% Ralph Appezzato Memorial Pkwy (58%)
9 W Campus Dr 18% Ralph Appezzato Memorial Pkwy (58%)	**10** 8% Webster St 10% Ralph Appezzato Memorial Pkwy (43%) (15%)	**11** Constitution Wy 5% Ralph Appezzato Memorial Pkwy (5%) (5%) (5%) 5%	**12** (9%) (5%) Main St 5% Pacific Ave Central Ave 9%
13 (5%) 3rd St 5% 5% Pacific Ave (5%)			

Legend

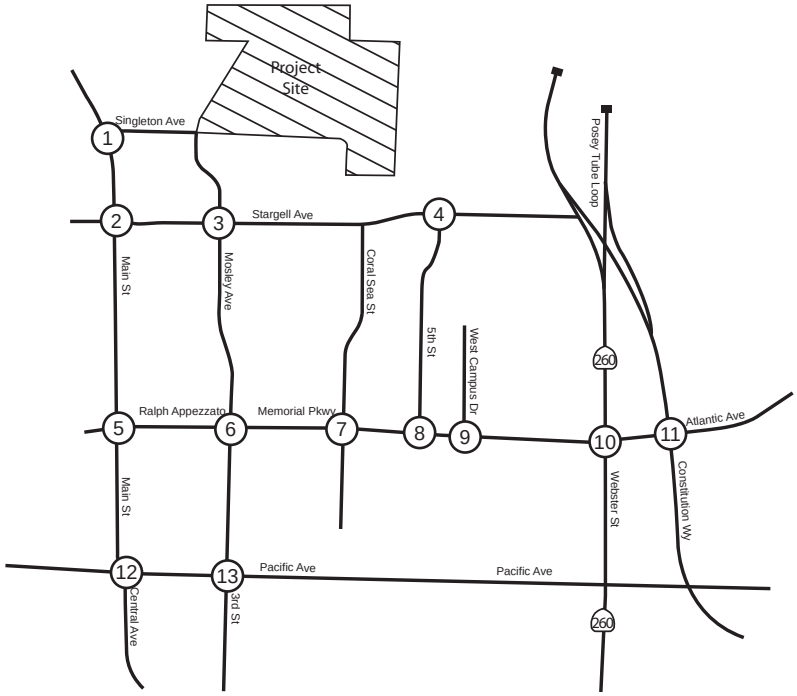
X% / (Y%) = IN / OUT PERCENT DISTRIBUTION



NOT TO SCALE

Figure 4.10-2
PM Project Trip Distribution - Study Intersections

1	Main St	Singleton Ave: 104 / 55	**2**	Main St: 104 / 55	Midway Ave; Stargell Ave: 18 / 70	**3**	Mosley Ave: 45 / 23
		18 / 70					Stargell Ave: 15 / 59
							4 / 19
4	Stargell Ave: 15 / 59		**5**	Main St: 21 / 18, 21 / 11, 62 / 26	Ralph Appezzato Memorial Pkwy: 7 / 15	**6**	Mosley Ave: 7 / 4, 37 / 20
	5th St			5 / 34	5 / 21		3rd St: 62 / 26
							Ralph Appezzato Memorial Pkwy: 3 / 12, 7 / 15
							2 / 7
7	Coral Sea St	Ralph Appezzato Memorial Pkwy: 10 / 27	**8**	5th St	Ralph Appezzato Memorial Pkwy: 10 / 27	**9**	W Campus Dr
	Poggi St: 100 / 45			100 / 45			Ralph Appezzato Memorial Pkwy: 10 / 27
							100 / 45
10	Webster St: 6 / 12	Ralph Appezzato Memorial Pkwy: 4 / 15	**11**	Constitution Wy	Ralph Appezzato Memorial Pkwy: 2 / 7	**12**	Main St: 13 / 7, 7 / 4
	77 / 34 22 / 12			7 / 4 7 / 4 7 / 4	2 / 7		Pacific Ave: 2 / 7
							Central Ave: 3 / 13
13	3rd St: 7 / 4	Pacific Ave: 2 / 7, 2 / 7					
	7 / 4						

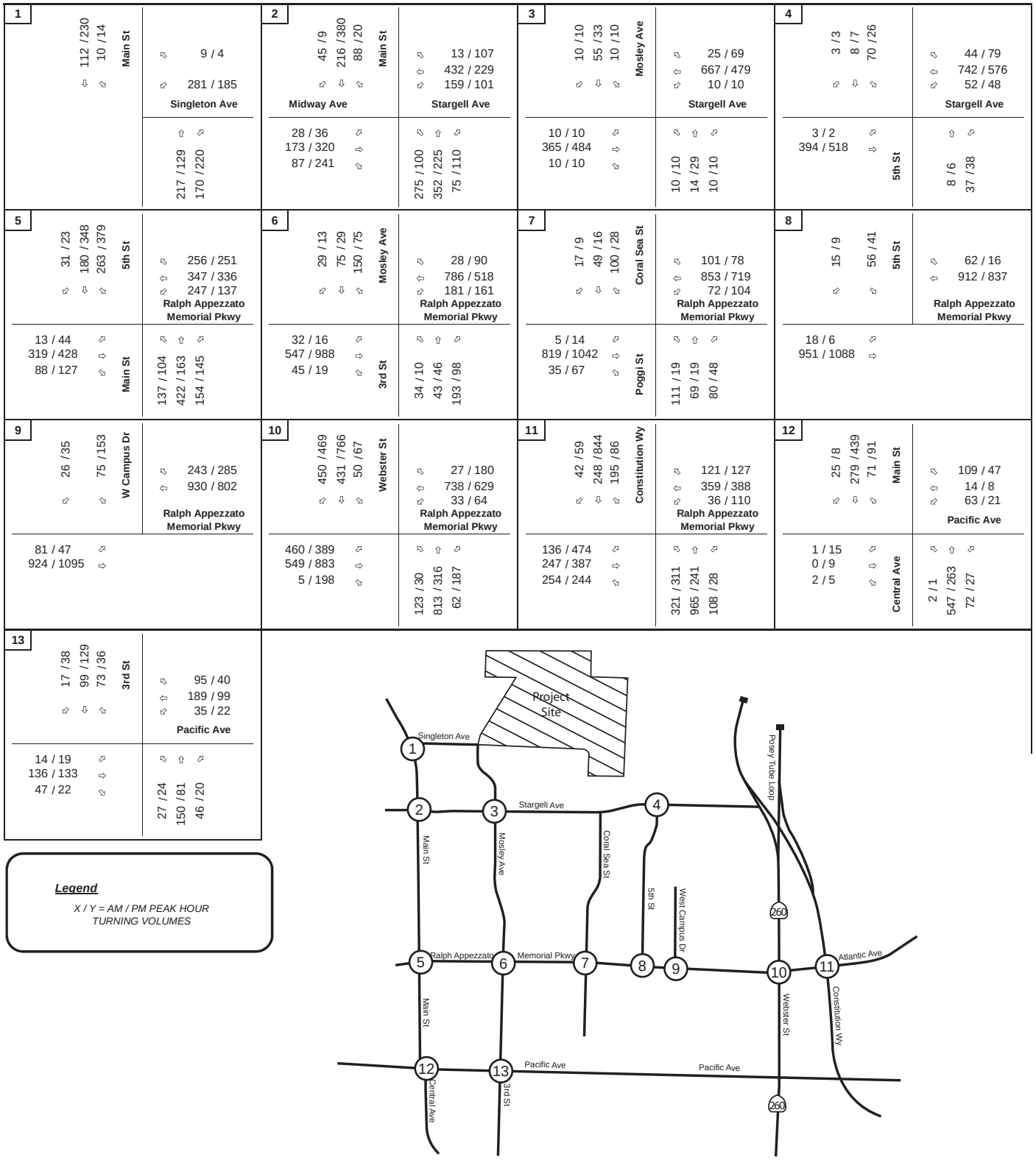


Legend

X / Y = AM / PM PEAK HOUR TURNING VOLUMES

NOT TO SCALE

Figure 4.10-3
Project Trip Assignment - Study Intersections



NOT TO SCALE

Figure 4.10-4
Year 2030 Proposed Action Peak-Hour Traffic Volumes

Table 4.10-2
Year 2030 Proposed Action Conditions
Peak-Hour Intersection Level of Service Summary

Intersection		Peak Hour	Traffic Control	2030 Baseline		2030 Baseline Plus Project		Δ [c]
				Delay [a]	LOS [b]	Delay [a]	LOS [b]	
1	Singleton Ave. and Main St.	AM	Signal	8.4	A	10.1	B	1.7
		PM		7.5	A	7.9	A	0.4
2	W Midway Ave. and Main St.	AM	Signal	14.9	B	15.9	B	1.0
		PM		8.4	A	8.8	A	0.4
3	Stargell Ave. and Mosley Ave.	AM	Two-Way Stop	31.2	D	48.4	**E**	17.2
		PM		29.5	D	36.5	**E**	7.0
4	Stargell Ave. and 5th St.	AM	One-Way Stop	12.6	B	12.6	B	0.0
		PM		14.1	B	14.1	B	0.0
5	Ralph Appezzato Memorial Pkwy. and Main St.	AM	Signal	17.7	B	18.2	B	0.5
		PM		15.6	B	16.2	B	0.6
6	Ralph Appezzato Memorial Pkwy. and Mosley Ave.	AM	Signal	18.8	B	21.2	C	2.4
		PM		15.6	B	16.9	B	1.3
7	Ralph Appezzato Memorial Pkwy. and Coral Sea St.	AM	Signal	12.9	B	13.3	B	0.4
		PM		16.7	B	16.7	B	0.0
8	Ralph Appezzato Memorial Pkwy. and 5th St.	AM	Signal	4.9	A	4.8	A	-0.1
		PM		3.3	A	3.3	A	0.0
9	Ralph Appezzato Memorial Pkwy. and W Campus Dr.	AM	Signal	14.7	B	14.6	B	-0.1
		PM		12.4	B	12.6	B	0.2
10	Ralph Appezzato Memorial Pkwy. and Webster St.	AM	Signal	36.8	D	37.8	D	1.0
		PM		44.0	D	45.0	D	1.0
11	Ralph Appezzato Memorial Pkwy. and Constitution Way.	AM	Signal	29.7	C	29.9	C	0.2
		PM		49.7	D	50.6	D	0.9
12	Pacific Ave. and Main St.	AM	Signal	35.7	D	37.2	D	1.5
		PM		26.4	C	26.8	C	0.4
13	Pacific Ave. and 3rd St.	AM	Signal	10.4	B	10.5	B	0.1
		PM		10.9	B	10.8	B	-0.1

Note: **Bold** values indicate roadway segments operating at LOS E or F.

[a] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

[b] LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0.

[c] Change in delay due to addition of project traffic.

Table 4.10-3
Year 2030 Alternative A Conditions Roadway Segment Level of Service Summary

Roadway Segment	Roadway Classification	2030 No Action		2030 Proposed Action		Δ in Peak-Hour Traffic	% Volume Increase from Project Traffic
		Peak-Hour Volume [a]	LOS	Peak-Hour Volume [a]	LOS		
AM Peak							
Posey Tube (EB), south of 5th St.	2 lane Regional Arterial (one-way)	3,130	**F**	3,215	**F**	85	2.72%
Webster Tube (WB), south of 5th St.	2 lane Regional Arterial (one-way)	3,364	**F**	3,385	**F**	21	0.62%
PM Peak							
Posey Tube (EB), south of 5th St.	2 lane Regional Arterial (one-way)	3,123	**F**	3,161	**F**	38	1.20%
Webster Tube (WB), south of 5th St.	2 lane Regional Arterial (one-way)	3,476	**F**	3,547	**F**	71	2.00%

Note: **Bold** values indicate roadway segments operating at LOS E or F.
[a] Peak-hour roadway volumes for the roadway segments were based on the *City of Alameda Transportation Element Update* (2008).

Parking Supply and Demand

Alternative A would not have an impact on parking, because it would provide the appropriate amount of parking for the provided housing units. The City of Alameda should review Alternative A to ensure that adequate parking is provided for occupants and visitors but remain at a level that encourages non-auto modes of travel. Not having enough parking spaces available would result in air and noise pollution from vehicles looking for a place to park. However, with the available alternatives in mass transit (as well as biking and walking options), minimizing the amount of parking available may encourage travelers to shift away from using autos. Parking is a dynamic situation, especially in neighborhood areas, and the balance between those travelers using mass transit and those looking for parking spaces should offset one another. It is not anticipated that a shortfall of parking would be available under Alternative A.

Findings and Recommendations

- Alternative A would generate a total of 186 trips during the a.m. peak hour and 226 trips during the p.m. peak hour. This trip generation is conservatively based on existing transit usage in the City of Alameda (15-percent currently commute via mass transit). However, it is likely that homeless and low-income housing would produce mass transit participation in excess of 15 percent.
- Alternative A would increase peak-hour traffic along the Posey and Webster tubes by less than three percent.
- Alternative A would have no significant impact on the intersections within the project area.
- One intersection would function at LOS E with the addition of Alternative A traffic. However, this intersection is a two-way stop controlled intersection and the delay reflects the southbound movement, which serves a small volume of vehicles. The number of vehicles during each peak-hour does not warrant changes to an all-way stop or traffic signal at this location (Stargell Avenue and Mosley Avenue).

4.10.2 Alternative B: No Action Alternative

Alternative B proposes no change in land use in the project area. No new traffic would be generated from this alternative. The traffic network would operate similar to Year 2030 Conditions as described in Section 3.10.4. Alternative B would have no significant traffic impacts.

4.11 AIR QUALITY

This section describes impacts to air quality that could occur under Alternatives A and B. The analysis addresses potential air quality impacts from both construction and operational activities.

Region of Influence

As described in the FEIS (U.S. Navy 1999), the ROI for air quality varies according to the type of air pollution being discussed. Primary pollutants are those that are directly emitted, such as CO and PM, from construction activities. The ROI for primary pollutants is generally restricted to the immediate vicinity of the emission sources, usually within a few hundred feet of the emission sources. Secondary pollutants are those that are formed by chemical reactions in the atmosphere, such as O_3 and some PM. Secondary pollutants have a more regional ROI that includes the entire Bay Area managed by the BAAQMD (U.S. Navy 1999).

Methodology

Construction Impacts

Construction activities would result in temporary (short-term) increases in air pollutant emissions. These emissions would be generated in the forms of fugitive dust emissions (PM_{10} and $PM_{2.5}$) from earth-movement activities and exhaust emissions (NO_X, sulfur oxides [SO_X], CO, ROG, $PM_{2.5}$, and PM_{10}) from construction equipment and vehicles.

Air pollutant emissions to be generated during construction phases were estimated using the URBEMIS2007 model. URBEMIS2007 allows specifying information for three construction phases typical for most projects: demolition, site grading, and building/structure construction. URBEMIS2007 estimates maximum daily emissions in pounds per day (lbs/day) for summer and winter seasons. It also estimates annual emissions in tons/year.

Operational Impacts (Traffic-Related and Area Emission Sources)

Air pollutant emissions, including NO_X, ROG, CO, PM_{10}, $PM_{2.5}$, and SO_X, would be generated from operational mobile and area sources. Mobile sources related to the

operations would consist of vehicular emissions resulting from vehicle trips to be generated. Area sources would include fuel combustion emissions from water/space heating of the residential houses. The URBEMIS2007 model was used to estimate air pollutant emissions during operations. The worst-case land use information was used as input to the model. The trip generation data as input to the model were based on the traffic study for Alternative A. Model default data, including trip length, fleet mix, and emission factor, was used. As stated previously, the BAAQMD established emission thresholds of significance to evaluate impact levels associated with project operations (see Table 3.11-2). The air quality analysis uses the BAAQMD emission thresholds to evaluate impact levels associated with Alternative A. Where the BAAQMD does not have quantifiable operational thresholds, federal *de minimis* levels are used in the analysis.

Localized Carbon Monoxide Impacts

As stated previously, the BAAQMD CEQA Guidelines established thresholds of significance for evaluating localized CO concentrations impacts (BAAQMD 1999). According to the BAAQMD CEQA Guidelines, localized CO concentrations should be estimated for projects in which: (1) vehicle emissions of CO would exceed 550 lbs/day (249 kgs/day), (2) project traffic would impact intersections or roadway links operating at LOS D, E, or F or would cause LOS to decline to D, E, or F, or (3) project traffic would increase traffic volumes on nearby roadways by 10 percent or more. The localized CO impact evaluation was conducted based on these thresholds.

4.11.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Nonsignificant Impacts

Construction Impacts

Construction of Alternative A was assumed to begin in 2010 and be completed in approximately one year. The worst-case land use data were used and assumptions were made for construction phases and old houses demolition as input to URBEMIS2007. The remainder of the model input data was conservatively based on model default data, including pieces of construction equipment and vehicles to be used and emission factors.

Table 4.11-1 presents the estimated maximum daily air pollutant emissions. Estimated annual emissions are shown in Table 4.11-2. The model output files are included in Appendix B.

Table 4.11-1
Summary of Estimated Daily Air Pollutant Emissions Construction Impacts

Item	Estimated Daily Air Pollutant Emissions lbs/day (kgs/day)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	76.22 (34.57)	56.09 (25.44)	65.31 (29.62)	0.06 (0.03)	203.24 (92.19)	44.73 (20.29)
Maximum Daily Emissions (After Mitigation)	76.22 (34.57)	56.09 (25.44)	65.31 (29.62)	0.06 (0.03)	31.82 (14.43)	8.52 (3.86)
Significance Threshold	**80 (36)**	**80 (36)**	**548 (249)**	**548 (249)**	**80 (36)**	**548 (249)**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**Yes**	**No**

Table 4.11-2
Summary of Estimated Annual Air Pollutant Emissions Construction Impacts

Item	Estimated Annual Air Pollutant Emissions tons/year (tonnes/year)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Annual Emissions	5.95 (5.40)	3.94 (3.57)	4.72 (4.28)	<0.01 (<0.01)	3.36 (3.05)	0.85 (0.77)
Annual Emissions (After Mitigation)	5.95 (5.40)	3.94 (3.57)	4.72 (4.28)	<0.01 (<0.01)	1.40 (1.27)	0.44 (0.40)
Significance Threshold	**15 (14)**	**15 (14)**	**100 (91)**	**100 (91)**	**15 (14)**	**100 (91)**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

As shown in Tables 4.11-1 and 4.11-2, the maximum daily emissions for all the subject air pollutants, except for PM_{10}, were estimated to be below the corresponding thresholds. The maximum estimated daily PM_{10} emissions would be above the corresponding significance threshold (Table 4.11-1).

As shown in Table 4.11–2, emissions of the subject air pollutants were estimated to be below the applicable federal de minimis levels and would be less than 10 percent of the Bay Area emission budget. The actions to dispose of and reuse the NAS Alameda

North Housing Parcel are exempt from the requirements for a conformity determination as stated in 40 C.F.R. 93.153.

Mitigation Measures

The following mitigation measures were identified to reduce PM emission impacts associated with construction activities:

- Water all active construction areas at least twice daily;
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet (0.6 meters) of freeboard;
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites;
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites;
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets; and
- Limit traffic speeds on unpaved roads to 15 miles per hour.

After implementation of the identified mitigation measures, the PM_{10} emissions would be below the corresponding emission threshold. Alternative A would not result in adverse impacts during construction phases after implementation of the identified mitigation measures.

Operational Impacts (Traffic-Related and Area Emission Sources)

Air pollutant emissions would be expected with operations of Alternative A. The URBEMIS2007 model was used to estimate operational emissions. The worst-case land use information was used as input to the model. Transit data were derived from the FEIS (U.S. Navy 1999) and area source hearth fuel use data were assumed based on the "Spare the Air Tonight Study" developed by the BAAQMD (2007). The trip generation data as input to the model were based on the traffic study for Alternative A. Model default data, including trip length, fleet mix, and emission factor, was used. Table 4.11-3 presents estimated daily air pollutant emissions associated with Alternative A,

along with the applicable emission thresholds. As stated previously, the modeling analysis estimates peak daily air pollutant emissions for both summer and winter seasons. Estimated annual emissions are shown in Table 4.11-4. The model output files are presented in Appendix B. The CARB publishes "the California Almanac of Emissions and Air Quality" each year, which estimates air pollutant emissions for each air basin in California (CARB 2008). The 2010 Bay Area air pollutant emissions forecasted by the CARB are listed in Table 4.11-4.

Table 4.11-3
Summary of Estimated Daily Air Pollutant Emissions Operational Impacts

Item	Estimated Daily Air Pollutant Emissions lbs/day (kgs/day)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Daily Area Source Emissions in Summer	25.05 (11.36)	3.38 (1.53)	7.58 (3.44)	<0.01 (<0.01)	0.03 (0.01)	0.03 (0.01)
Daily Mobile Source Emissions in Summer	18.96 (8.60)	27.84 (12.63)	211.36 (95.87)	0.19 (0.09)	39.02 (17.70)	7.53 (3.42)
Total Daily Operational Emissions in Summer	**44.01 (19.96)**	**31.22 (14.16)**	**218.94 (99.31)**	**0.19 (0.09)**	**39.05 (17.71)**	**7.56 (3.43)**
Daily Area Source Emissions in Winter	57.90 (26.26)	6.40 (2.90)	43.90 (19.91)	0.10 (0.05)	5.95 (2.70)	5.73 (2.60)
Daily Mobile Source Emissions in Winter	21.12 (9.58)	37.62 (17.06)	253.39 (114.94)	0.19 (0.09)	39.02 (17.70)	7.53 (3.42)
Total Daily Operational Emissions in Winter	**79.02 (35.84)**	**44.02 (19.97)**	**297.29 (134.85)**	**0.29 (0.13)**	**44.97 (20.40)**	**13.26 (6.01)**
Significance Threshold	**80 (36)**	**80 (36)**	**548 (249)**	**548 (249)**	**80 (36)**	**548 (249)**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

As shown in Tables 4.11-3 and 4.11-4, the air pollutant emissions were estimated to be below the thresholds, and Alternative A would not result in adverse air quality impacts during the operational phase. Compared to the Bay Area Air Basin emissions, the emissions estimated for Alternative A would be very small, and Alternative A would not result in adverse air quality impacts to the region.

As shown in Table 4.11–4, emissions of the subject air pollutants were estimated to be below the applicable federal de minimis levels and would be less than 10 percent of the Bay Area emission budget. The actions to dispose of and reuse the NAS Alameda North Housing Parcel are exempt from the requirements for a conformity determination as stated in 40 C.F.R. 93.153.

Table 4.11-4
Summary of Estimated Annual Air Pollutant Emissions Operational Impacts

Item	Estimated Annual Air Pollutant Emissions tons/year (tonnes/year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Annual Area Source Emissions	5.89 (5.34)	0.65 (0.59)	2.52 (2.29)	<0.01 (<0.01)	0.24 (0.22)	0.23 (0.21)
Annual Mobile Source Emissions	3.60 (3.27)	5.66 (5.13)	41.14 (37.31)	0.04 (0.04)	7.13 (6.47)	1.38 (1.25)
Total Annual Emissions	**9.49 (8.61)**	**6.31 (5.72)**	**43.66 (39.60)**	**0.04 (0.04)**	**7.37 (6.68)**	**1.61 (1.46)**
Significance Threshold	**15 (14)**	**15 (14)**	**100 (91)**	**100 (91)**	**15 (14)**	**100 (91)**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Bay Area Air Basin Emissions	**110,532 (100,253)**	**127,368 (115,523)**	**498,858 (452,464)**	**22,692 (20,582)**	**84,180 (76,351)**	**30,744 (27,885)**

Localized Carbon Monoxide Impacts

As shown in Table 4.11-3, the maximum daily CO emissions estimated to be generated from Alternative A during operations would be 297.29 lbs/day (134.85 kgs/day). The maximum CO emissions estimated associated with this alternative would be below the BAAQMD localized CO threshold of 550 lbs/day (249 kgs/day).

According to the traffic study, all the affected intersections, except for the intersection of Stargell Avenue and Mosley Avenue, would not result in LOS to decline to D, E or F, as compared to the No Action Alternative. Alternative A would affect LOS of the intersection of Stargell Avenue and Mosley Avenue to decline to E, as compared to the No Action Alternative. The intersection of Stargell Avenue and Mosley Avenue is a two-way stop controlled intersection and the traffic delay reflects the southbound movement which serves a small volume of vehicles (less than 10 percent of the total traffic volume for all roadway links of this intersection). Consultation with the BAAQMD (2009) indicated that CO modeling might not be warranted for this intersection.

Section 4.10 shows that the traffic volume increases associated with Alternative A would be less than 10 percent of the traffic volumes under the No Action Alternative.

Therefore, no CO modeling analysis is required and Alternative A would not result in adverse localized CO impacts.

Asbestos, Lead (Pb), and Diesel Exhaust Particulate Matter (PM)

The USEPA and CARB have ongoing programs to identify toxic air pollutants. Among the many substances identified as toxic air pollutants are diesel exhaust PM, asbestos, and Pb.

A principal toxic air pollutant of interest for Alternative A is diesel exhaust PM. On the federal and state levels, diesel exhaust PM emission reduction efforts have concentrated on the use of improved fuels, adding particulate filters to engines exhausts, and requiring the production of new-technology engines that emit fewer exhaust particulates.

Construction of Alternative A would use diesel equipment and vehicles. However, substantial use of diesel equipment and vehicles would not be expected. Construction of this alternative would be short term, and the diesel exhaust PM emission impacts would cease after completion of action components.

Asbestos and LBP are toxic substances that may be present in older houses' demolition and remodeling. As stated in the FEIS (U.S. Navy 1999), complying with federal, state, and BAAQMD regulations during house demolition or remodeling would prevent significant airborne releases of these materials. Alternative A would not cause adverse toxic pollution impacts to the neighboring communities.

4.11.2 Alternative B: No Action

Nonsignificant Impacts

Under the No Action Alternative, the NAS Alameda North Housing Parcel would remain under federal control in a caretaker status. Activities would be limited to maintenance and security activities associated with the site. No new houses would be constructed associated with the No Action Alternative. Therefore, no adverse air quality impacts would be anticipated under this alternative.

4.12 NOISE

This section describes the noise impacts that could occur under Alternatives A and B. The impact analysis identifies demolition and construction noise, and the compatibility of projected noise levels with existing and proposed land uses.

Potential impacts to noise sensitive receptors are identified based on the proximity of receptors to construction and operational noise. Human reaction to changes in noise levels is both physiological and psychological. The nature of noise sources can affect people's reaction to it. Construction noise typically can be unpredictable, intermittent periods of high noise levels, while operational noise typically can be sustained or cycling levels. Temporary noise, such as construction noise, is generally more tolerated than permanent operational noise sources. Time of day or week can be a determining factor of objectionable noise (e.g., nighttime vs. daytime, weekdays vs. weekends).

Noise impacts are primarily determined by the distance and barriers between noise sources and receptors. Noise levels naturally attenuate logarithmically with distance at a rate of approximately 6 dBA per doubling of distance; i.e., greater distance is required from the noise source to achieve the same rate of reduction in noise level. This logarithmic decrease in noise levels with distance results in a limited ROI. The ROI for fixed noise sources is generally less than 0.5 mile (0.8 kilometers) from the site. The ROI for traffic noise is generally less than 1,000 feet (305 meters) from the roadway.

4.12.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

As detailed in the project description, Alternative A would result in the reuse of the North Housing Parcel as a residential area, which would generate noise from the demolition, renovation, and construction of housing; and the operation and use of the proposed housing.

Construction

Construction of the proposed facilities would generate temporary, short-term noise levels associated with construction activities including housing demolition and renovation, hauling of demolition materials off-site and construction materials on-site, utility installation on-site and along roadways, roadway improvements, and the construction of the new housing. Building demolition and construction, and roadway

improvements (all exterior sources) would be the primary construction noise sources. Construction activities would generate construction traffic from construction worker trips to and from the site, the delivery of construction equipment and vehicles, and building materials. Construction staging areas would stockpile this equipment, materials, and vehicles, and would be a source of localized noise.

Construction noise generated would potentially impact the sensitive noise receptors (residences) located adjacent to the proposed construction activities on-site and along the utility and construction transportation routes. The residences adjacent to the site, south of Singleton Avenue, and west of Main Street would be subject to construction noise from Alternative A. Construction activity would be limited to non-Sunday/holiday daytime hours due to the City's noise ordinance. Implementation of this alternative would result in construction during daytime hours, which would result in increased ambient daytime noise levels in the vicinity of the project site.

Noise levels from the operation of construction equipment vary widely based on the number and type of equipment operating, and the construction activity level or equipment duty cycle. For a typical construction project, the loudest short-term maximum noise levels (L_{max}) are 90 dBA L_{max} at a distance of approximately 50 feet (15 meters) for a few minutes during each cycle from earth-moving equipment under full load. Construction equipment noise is usually considered as a noise point source, which attenuates typically at a rate of 6 dBA per doubling of distance (e.g., 90 dBA at 50 feet [15 meters] will attenuate to 84 dBA at 100 feet [30 meters]. The nature of construction projects, with equipment moving from one point to another, work breaks, and idle time, is that average long-term noise levels are less than short-term noise levels. For purposes of this analysis, a maximum 1-hour average noise level of approximately 80 dBA L_{eq} at a distance of 50 feet (15 meters) from the centroid of a construction area is assumed for the project site.

The noise sensitive receptors nearest to the proposed construction activities are the residences and schools adjacent to and south of the project site. Construction activities in the project's southernmost housing areas of the site could occur as close as approximately 100 feet (30 meters) from the existing homes off-site. At this distance, the assumed 1-hour average construction noise level of 80 dBA L_{eq} at 50 feet (15 meters) would be approximately 74 dBA L_{eq} at 100 feet (30 meters) with short-term maximum noise levels of 90 dBA L_{max} at 50 feet (15 meters) reducing to approximately 84 dBA

L_{max}. Noise sensitive receptors with 300 feet (91 meters) of the construction activity may be temporarily impacted by the construction noise.

Since most of NAS Alameda was established on fill material, structural support piles may be needed to be driven into the soil to provide adequate foundation support for some structures. Pile driving (standard type) of bridge supports would generate short-term maximum noise levels of up to 105 dBA L_{max} at 50 feet (15 meters) (USEPA) with average noise levels of up to 95 dBA L_{eq} at 50 feet (15 meters). If pile driving were required, these higher construction noise levels would be of concern in proximity to sensitive receptors.

The City Noise Ordinance does not have construction noise level limits to define significant construction noise impacts, nor do many cities and counties. Those jurisdictions that do have construction limits generally select 75 or 80 dBA L_{eq} as the limit, sometimes average over 8 hours. The Federal Transit Administration (FTA) suggests a noise level of 90 dBA L_{eq} for a threshold of significance (FTA 2006). For purposes of this EA, a 1-hour construction noise level of 80 dBA L_{eq} is selected as a guideline to determine significant construction noise impacts.

Therefore, construction noise levels from the construction activities of Alternative A would be less than the assumed limit of 80 dBA L_{eq} at the nearest receptor and would not result in a significant impact.

Although noise levels would not exceed the 80 dBA L_{eq} guideline threshold, project construction noise would be audible at the nearest existing homes and short-term noise may cause intermittent interference with normal speech during outdoor activities, or interference with sleep for those persons who would be sleeping during daytime hours. Construction noise can be minimized by constructing a temporary noise barrier along the perimeter of the site, and/or phasing construction activities in different areas of the site.

Noise would be generated off-site by construction vehicle traffic, including the delivery of equipment and materials, the removal of demolition materials, and the commuting of the construction crew. The construction traffic would principally be to access the project site via Singleton Avenue, which is accessed by residents adjacent to and south of Singleton Avenue. The addition of the construction traffic along Singleton Avenue,

especially truck traffic, would noticeably increase noise levels at the adjacent residences.

Operation

After the proposed facilities are constructed, potential operation noise impacts would include the noise-land use compatibility and project-generated noise.

Alternative A does not include any significant areas of heavy industrial use. Consequently, no significant noise-related land use conflicts are anticipated.

The increased traffic volumes generated under Alternative A, identified in the Traffic Section 4.10, would primarily affect Singleton Avenue, Main Street, Stargell Avenue, and Webster Street; however, there would be no significant operational traffic noise impacts.

Mitigation Measures

No mitigation measures are required.

4.12.2 Alternative B: No Action

Maintaining the project area in caretaker status would result in no noise impacts.

4.13 HAZARDOUS MATERIALS AND WASTE

This section describes impacts related to hazardous materials and hazardous wastes that would be associated with Alternatives A and B. Impacts are analyzed against operational baseline conditions as described in Section 3.13. This section also details the Navy, regulatory, and public review processes established to protect human health and the environment.

The Navy is committed to complete all required remediation of contaminated sites resulting from Navy activities at NAS Alameda. Final cleanup remedies have been selected for OU-5/IR-2 groundwater and Site 25 soil. Delays or restrictions in disposal and reuse could occur, depending on the extent of contamination and the results of the risk assessment and remedial designs developed for contaminated sites (NAVFAC SW 2007a, b).

No Impacts were identified for RCRA sites, medical/biohazardous wastes, pesticides, PCB, ordnance, or radon. These subjects are not discussed further in this section.

Region of Influence (ROI)

The ROI for hazardous materials and wastes is the North Housing Parcel (Parcels 181 and 182).

4.13.1 Alternative A: Reuse Plan Amendment (Preferred Alternative)

Impacts

Alternative A includes the reuse of the North Housing Parcel (approximately 42 acres [15 hectares]) at NAS Alameda. The proposed reuse of the site will adhere to the amended Community Reuse Plan.

There were no UST or AST sites, fuel lines, or hazardous waste storage areas identified in the North Housing Parcel. However, IR Site 25 soil and OU-5/IR-02 groundwater were identified in the North Housing Parcel. As noted in Section 3.13.8, presticides, herbicides, insecticides, termiticides and rodenticides were appliced at NAS Alameda including the North Housing area. Residual level of these substances may be present in the North Housing area.

IR Site 25 soil was identified in the North Housing Parcel and was investigated. A ROD was issued in 2007 for Site 25 soil and a remediation alternative was recommended. The selected remedy by the Navy is to implement ICs for Site 25 to limit human contact with PAH-containing soil that may be harmful to human health. ICs will require the future landowner to obtain written approval from the regulatory agencies and the Navy and requires the landowner to comply with a soil management plan for excavation of soil from depths greater than 4 feet (1.2 meters) bgs and for major work related to the removal of buildings and hardscape (NAVFAC SW 2007a).

OU-5/IR-02 groundwater was identified in the North Housing Parcel and is currently being remediated. The shallow groundwater ranges from approximately 2 to 10 feet (0.6 to 3 meters) bgs. Groundwater generally flows in a north to northwest direction, toward the Oakland Inner Harbor. A ROD was issued in 2007 for OU-5/IR-02 groundwater and a remediation alternative was recommended. The Navy plans a 2-year groundwater treatment program in the three areas of the plume that have higher contaminant levels ("plume-centers"), beginning in September 2008. One of these areas is within the North Housing Parcel—in the southeast, beneath Kollmann Circle. The 3.9-acre Kollmann Circle area of Site 25 will likely not be available for development for the next 5 to 10 years. Lower-level contamination in the rest of the plume will be monitored and is expected to biodegrade naturally within about 10 years. Until then, land use restrictions forbid both the use of groundwater and interference with cleanup operations. Vapor intrusion into indoor air has been shown not to be a problem at the North Housing Parcel. The Navy's groundwater cleanup efforts are compatible with residential use of the property outside Kolmann Circle and should be minimally disruptive.

In addition, LBP is present in the buildings, apartments, and soil located in the North Housing Parcel.

Mitigation Measures

Contaminated soil can be expected to be encountered at the shallow (i.e., 4 feet [1.2 meters] bgs) depth at North Housing Parcel area (see Section 3.13). Where Alternative A involves construction and excavation activities, mitigation at these areas will be conducted in accordance with the approved remedial actions and federal and state regulations. Any contaminated soil encountered during the construction activities will be properly disposed of at approved state licensed disposal facilities. If Marsh Crust is

encountered during excavation, Ordinance No. 2824 (Marsh Crust ordinance) will be adhered to.

The groundwater depth for Alameda Point Site 25 and OU-5/IR-02 is relatively shallow (i.e., 2 to 10 feet [0.6 to 3 meters] bgs); therefore, shallow excavation could potentially encounter contaminated groundwater, exposing workers to potential contamination and possibly result in unacceptable discharges of contaminated groundwater into drainage systems if dewatering is conducted. Construction of project components that require excavation, such as concrete slabs, parking surfaces and trenching for utilities may have significant impacts. Groundwater treatment processes would be applied, as necessary, if contaminated groundwater is encountered during construction activities. Treatments could include: in-situ treatment; on-site pump treatment; and disposal of encountered contaminated groundwater at approved state-licensed disposal facilities.

Demolition of existing facilities would require the preparation and implementation of an abatement plan, which follows federal and state regulations for the removal of any LBP. Proper and safe techniques need to be adopted throughout the entire abatement and disposal process. Some soil excavation may be required to address contaminated structure with or caused by the demolition of existing facilities demolition/removal activities and/or to remove contaminated soil associated with the demolition of existing facilities.

In addition, other undocumented contaminants residue in the soil from historical spills that may be present underneath the site should be assessed during the North Housing Parcel project. ICs will require the future landowner to obtain written approval from the regulatory agencies and the Navy and requires the landowner to comply with a soil management plan for excavation of soil from depths greater than 4 feet (1.2 meters) bgs and for major work related to the removal of buildings and hardscape (NAVFAC SW 2007a).

4.13.2 Alternative B: No Action

Impacts

Under the No Action Alternative, no hazardous materials or waste impacts would occur.

Mitigation Measures

No public health and safety impacts will occur; therefore, no mitigation measures are proposed.

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CHAPTER 5.0
OTHER NEPA CONSIDERATIONS

This section summarizes the cumulative impacts associated with the proposed project that are identified in environmental issue areas in Sections 4.1 through 4.13 of this EA. Cumulative impacts are the result of combining the potential effects of the project with existing, approved, proposed, and other reasonably foreseeable development projects.

5.1 CUMULATIVE IMPACTS

NEPA regulations require an EA to discuss cumulative impacts when they are significant. If these impacts are nonsignificant, the document should explain the basis for that conclusion. Cumulative impacts are two or more individual effects that, when considered together, are considerable or that compound other environmental impacts. Individual impacts may be changes resulting from a single project or a number of separate projects. Cumulative impacts from several projects are the changes in the environment that result from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects.

Cumulative impacts can result from individually minor but collectively significant projects occurring over the lifetime of the project under consideration. An analysis of cumulative impacts must consider both regional and local effects. The region considered in this analysis is the surrounding area of NAS Alameda. For the purposes of analysis, it is assumed that the reuse of the NAS Alameda/FISC Alameda property would be implemented concurrently with other projects that could contribute to locally and regionally cumulative impacts. Local projects include the proposed uses on property at NAS Alameda/FISC Alameda that is already transferred.

The methodology used to develop the cumulative analysis included reviewing the current General Plan for the City of Alameda and compiling a list of ongoing and proposed specific projects near NAS Alameda/FISC Alameda that could reasonably contribute to cumulative impacts. Additional sources were used to identify reasonably foreseeable projects because the General Plan for the area does not include some of the most recent land use proposals in the area and does not include proposals for surrounding jurisdictions. A list of cumulative projects is presented in Table 5-1. The

Table 5-1
Cumulative Projects

Project	Project Size	Historical Uses	Project Description	Completion Date of Planning Document	Project Completion Date	Historical Population	Projected Future Population	Net Population Change
Alameda Landing Bayport	87 acres	Military	485 single-family home community, Including a 11-acre centrally located park plus four mini-parks throughout the neighborhoods and an elementary school.	2000	2007	Unknown	Unknown	Unknown
Transit Nodes in West End Neighborhood	Development of 0.5 miles	Civilian	Develop corner transit nodes to integrate with NAS Alameda/ FISC Alameda transit.	January 1996	2020	N/A	N/A	N/A
Buildout of Alameda General Plan	Mostly small developments less than 100 acres, except for up to 5.2 million square feet for the Harbor Bay Business Park	Civilian urbanized; farming; fill area on Bay Farm Island	Development and infill of existing parcels and some redevelopment of existing urban area; Harbor Bay Business Park will be a major research and development center and includes a conference	1991	2010	74,139 in 1990	81,400 in 2010	7,261

Project	Project Size	Historical Uses	Project Description	Completion Date of Planning Document	Project Completion Date	Historical Population	Projected Future Population	Net Population Change
			hotel and retail development.					
	905 acre	Variable	Plan for future development along Oakland Estuary.	1998	2015	457	1,857	1,400
Port of Oakland Airport Terminal Expansion Projects	2,662 acres	Airport	Construct air passenger terminals, air cargo facilities, airport facilities, and landslide access.		2000–2010	0	0	0
Tinker Avenue Extension Project (also known as Willie Stargell Avenue Extension Project)	4,000 linear feet within an 89-foot right-of-way west of 5th Street and a 75-foot right-of-way east of 5th Street	Public Street	Improvement and extension of an existing street as a two-lane roadway between Main Street and Webster Street.	2000	2010	0	0	0
Willie Stargell Extension Project, Phase II	4,000 linear feet within an 89-foot right-of-way west of 5th Street and a 75-foot right-of-way east of 5th Street	Public Street	Widening and associated improvements of an existing street as a four-lane roadway between Main Street and Webster Street.	2000	Unknown	0	0	0
U.S. Dept. of Veterans Affairs	549 acres	Military Airfield	Outpatient clinic, columbarium, support office.	Unknowns	Unknown	0	Unknown	Unknown

reuse of NAS Alameda/FISC Alameda, in conjunction with other major projects in the region, would result in cumulative impacts to several resources. Some of these impacts, such as job opportunities and housing supply, which are described in the socioeconomics section, would be beneficial. Other impacts would be fully or potentially offset through the planning process for the individual projects or by developing project-specific mitigation measures. The cumulative impacts of the projects listed in Table 5-1 are discussed under the appropriate resource areas below.

5.2 ENVIRONMENTAL ANALYSIS OF CUMULATIVE EFFECTS

NEPA requires only a discussion of those cumulative impacts with the potential for significance. Implementation of these projects would not conflict with the implementation of the Preferred Alternative in terms of construction and operation. Potential impacts associated with these projects would be, or have been, addressed on a project-specific basis via the preparation of NEPA documentation.

Effects of the Preferred Alternative on land use, visual, socioeconomics, public services, utilities, cultural resources, biological resources, geology and soils, traffic and circulation, noise, and hazardous materials would not be significant. These effects would not contribute to cumulative impacts associated with other planned projects in the vicinity of the proposed multi-family housing sites. Cumulative effects of the Preferred Alternative and these other projects could occur to air quality, and water resources. Each of these resources is addressed in this section.

5.2.1 Water Resources

Implementation of the Preferred Alternative in combination with other proposed or reasonably foreseeable development has the potential to cumulatively affect the quality of local receiving waters. The Preferred Alternative would incorporate hydrology/water quality measures such as compliance with the NPDES General Permit No. CAS000002 and the associated Order No. 92-08-DWQ, “Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity.” A SWPPP, along with applicable BMPs, would be implemented along with an erosion control plan, which would include the use of hay bales, silt fences, siltation basins, or other devices necessary to stabilize the soil in denuded or graded areas during the construction and revegetation phases of the project. New drainage improvements would be installed to properly collect and carry off-site surface runoff. The other cumulative projects in the

vicinity of the Preferred Alternative would be required to incorporate specific measures and procedures into design, construction, and operational plans. Examples of such measures and procedures include, but are not limited to, (1) ensuring that storm water discharges are in compliance with all pertinent regulations such as the CWA and RCRA, and (2) adherence to appropriate permits and plans such as the NPDES permit and SWPPP and other spill contingency plans. In addition, all development activities would be required to implement BMPs to avoid or minimize erosion, sedimentation, and water quality degradation. Therefore, the Preferred Alternative, in conjunction with other projects would not result in significant cumulative impacts to hydrology and water quality.

5.2.2 Air Quality

Increased air pollutant emissions would be emitted during construction and operational phases of the Preferred Alternative. As stated in Chapter 4.11, the Preferred Alternative would not result in adverse impacts during construction and operational phases.

According to the FEIS (U.S. Navy 1999), implementing any of the NAS Alameda reuse alternative, along with other major developments in the region, would contribute to cumulative air pollutant emissions in the Bay Area. While the Preferred Alternative would not individually result in adverse impacts, the Preferred Alternative along with the actions under the NAS Alameda reuse alternative and other major developments in the region would contribute to cumulative air quality impacts to the Bay Area. Cumulative air quality issues in the Bay Area are being addressed through regional air quality plans developed jointly by BAAQMD, ABAG, and MTC. These plans reflect anticipated regional land use and transportation patterns. BAAQMD regulations require most new industrial facilities to fully offset emissions that will be generated by their operations. Compliance with the above agencies would reduce the impacts associated with the Preferred Alternative and other projects for air quality.

5.2.3 Global Climate Change

This section includes a discussion of climate change and greenhouse gases (GHG); a summary of applicable regulations; and a discussion of GHG emissions due to the proposed action and potential impacts related to climate change.

Greenhouse Gases

Certain gases that occur in the atmosphere are classified as GHGs. Examples of GHGs are water vapor, carbon dioxide, methane, ozone, nitrous oxide, and fluorinated compounds. GHGs play a critical role in determining the Earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the Earth's surface, and a smaller portion of this radiation is reflected back toward space. The radiation that is emitted from the Earth toward space is in the form of lower frequency infrared radiation, as opposed to high-frequency solar radiation. Most solar radiation passes through GHGs; however, GHGs have strong absorption properties in the infrared wavelength, whereas the atmosphere, in its natural composition, does not. Thus, infrared radiation is selectively absorbed by GHGs. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth. Without the greenhouse effect, Earth would not be able to support life as we know it (IPCC 2007a).

Aside from water vapor, a naturally occurring GHG that accounts for the largest percentage of the greenhouse effect, other prominent GHGs that contribute to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), nitrous oxide (N_2O), and fluorinated compounds (hydrofluorocarbons [HFC], perfluorocarbons [PFC] and sulfur hexafluoride [SF_6]) (USEPA 2008a). Carbon dioxide equivalent (CO_2e) is a commonly used, single measurement for overall GHG emissions that facilitates analysis and takes into account the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential (GWP) of a GHG, depends on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, as described in Appendix C, "Calculation References," of the *General Reporting Protocol* of the California Climate Action Registry (CCAR) (2009), 1 metric ton of CH_4 has the same contribution to the greenhouse effect as approximately 23 metric tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2. Fluorinated compounds are typically emitted in smaller quantities from industrial processes, but because they are potent GHGs, they are sometimes referred to as High GWP gases. Expressing emissions in CO_2e takes the contributions of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted (USEPA 2008a).

Impacts of Climate Change

Global climate change is defined as a change in the climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere, and that is in addition to natural climate variability observed over comparable time periods. Human-caused emissions of GHGs exceeding natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of Earth's climate (UNFCCC 2008). It is extremely unlikely that global climate change of the past 50 years can be explained without the contribution from human activities (IPCC 2007a).

According to scientific consensus on the subject, global climate change is already under way. The Working Group I's contribution to the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report describes progress in understanding of the human and natural drivers of climate change, observed climate change, climate processes and attribution, and estimates of projected future climate change (IPCC 2007a). The Working Group II's contribution to the Fourth Assessment Report describes the relationship between observed climate change and recent observed changes in the natural and human environment (IPCC 2007b). GHGs are global pollutants, unlike criteria air pollutants and hazardous air pollutants (discussed in Section 3.11, Air Quality, of this EA), which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe (IPCC 2007a).

Similarly, impacts of GHGs are borne globally, as opposed to localized air quality effects of criteria air pollutants and hazardous air pollutants. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known, but it is clear that the quantity is enormous and that no single project would be expected to measurably contribute to a noticeable incremental change in the global average temperature, or to global or local climate or microclimate change (CAPCOA 2008).

Global average ambient concentrations of CO_2 have demonstrably increased since preindustrial times, from approximately 280 parts per million (ppm) to approximately 353 ppm in 1990 and approximately 380 ppm in 2000. Global average temperature has risen approximately 0.76 degree Celsius (°C) since 1850. If global CO_2 emissions were to be

curbed today, global average temperature would continue to rise an additional 0.5°C by the end of this century because of the inertia of the climate system and time scale of the main sequestration mechanism in the carbon cycle—the ocean. As GHG emissions associated with fossil fuel combustion, population growth, technological advances, and current standards of living will likely continue to occur, a more likely range of scenarios for global average temperature rise would be 1.8–4.0°C by the end of the century, depending on the global emissions scenario that ultimately unfolds (IPCC 2007a). The IPCC has developed several climate change scenarios to examine global average temperature change. For example, the IPCC's B1 scenario (low population growth, clean technologies, and a low emissions future) is the best-case scenario; the A2 scenario (high population growth, fossil-fuel dependence, and a high emissions future) is the worst-case scenario; and its A1B scenario is a moderate scenario (IPCC 2007a).

Impacts associated with the incremental increase in global average temperature can occur in numerous forms: sea level rise, reduction in the extent of polar and sea ice, changes to ecosystems, changes in precipitation patterns, reduced snowpack, agricultural disruption, increased intensity and frequency of storms and temperature extremes, increased risk of floods and wildfires, increased frequency and severity of drought, effects on human health from vectorborne disease, species extinction, and acidification of the ocean (IPCC 2007a).

Greenhouse Gas Emissions Sources

Human-related emissions of GHGs contributing to global climate change are attributable in large part to activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors (CARB 2009). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (CARB 2009). Individual GHGs are associated with different types of activities. For example, emissions of CO_2 are byproducts of fossil-fuel combustion, while CH_4 results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) largely associated with agricultural practices and landfills. CO_2 sinks, or reservoirs, include vegetation and the ocean, which respectively absorb CO_2 through photosynthesis and dissolution, and are two of the most common processes of CO_2 sequestration. CH_4 sinks include chemical reactions in the atmosphere that convert CH_4 to other gaseous compounds, and woodland soils where the CH_4 is used by bacteria in the soil as a source of carbon (USEPA 2008a).

California is the second largest emitter of CO_2 in the U.S. and the 12th to 16th largest emitter of CO_2 in the world (CEC 2006a). Due to limited availability of data and a higher level of uncertainty in quantification methods, similar information is not available for CH_4 emissions. California produced 484 million gross metric tons of CO_2e in 2004 (CARB 2009).Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2004, accounting for 38 percent of total GHG emissions in the state (CARB 2009). This sector was followed by the electric power sector (including both in-state and out-of-state sources) (19 percent) and the industrial sector (23 percent) (CARB 2008a).

Regulatory Background

Federal Plans, Policies, Regulations, and Laws

As of this writing, there are no adopted federal plans, policies, regulations, or laws mandating reductions in GHG emissions applicable to the proposed action (USEPA 2008a). According to the USEPA, "The United States government has established a comprehensive policy to address climate change." This includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science" (USEPA 2008b). The federal government's goal is to reduce the GHG intensity (a measurement of GHG emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. In addition, USEPA administers multiple programs that encourage voluntary GHG reductions, including ENERGY STAR, Climate Leaders, and Methane Voluntary Programs (USEPA 2007).

With respect to GHGs, the U.S. Supreme Court ruled on April 2, 2007 that CO_2 is an air pollutant as defined under the CAA, and that USEPA has the authority to regulate emissions of GHGs (*Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 [2007]).

CEQ regulations recognize that many federal agencies confront limited information and substantial uncertainties when analyzing the potential environmental impacts of their actions under NEPA (40 C.F.R. § 1502.22).

This analysis acknowledges that there is incomplete or unavailable information regarding GHG emissions such that a credible estimate of the potential environmental impacts of the proposed action on global average temperature or on global or local climate cannot be made.

State Plans, Policies, Regulations, and Laws

Although GHG emissions are not currently regulated at the federal level, various state and local governments have adopted legislation and action plans to reduce GHG emissions. For example, the State of California has passed several pieces of legislation intended to reduce the rate of GHG emissions to a level that can help the state do what is viewed as its fair share to slow or stop the human-caused increase in average global temperatures, and associated changes in climatic conditions. In September 2006, Governor Schwarzenegger signed Assembly Bill (AB) 32 (Chapter 488, Statutes of 2006), the Global Warming Solutions Act of 2006, which enacted Sections 38500–38599 of the California Health and Safety Code. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. In 2002, then-Governor Gray Davis signed AB 1493 (Chapter 200, Statutes of 2002), which amended Section 42823 of the California Health and Safety Code and added Section 43018.5 to the code. AB 1493 required that CARB, California Air Resource Board, develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state." The authorization to implement more stringent standards in California was requested in the form of a CAA Section 209(b) waiver from USEPA in 2005. USEPA denied California's request for the waiver to implement AB 1493 in late December 2007. The State of California has filed suit against USEPA for its decision to deny the CAA waiver.

SB 107 (Chapter 464, Statutes of 2006) requires investor-owned utilities such as SDG&E to increase the percentage of renewable energy in the state's electricity mix to 20 percent by 2010. California State Executive Order S-20-04 sets a goal of reducing energy use in state-owned and private commercial buildings by 20 percent in 2015, using non-residential Title 20 and Title 24 standards adopted in 2003 as the baseline. CARB also approved a list of discrete early action measures to address climate change as required by AB 32.

California law (SB 97, Chapter 185, 2007) states that GHG emissions and their effects are subject to the California Environmental Quality Act (CEQA). Pursuant to SB 97, the Governor's Office of Planning and Research (OPR) is in the process of developing guidelines for the mitigation of GHG emissions or the effects of GHG emissions. As part of this process, OPR has asked CARB technical staff to recommend statewide interim thresholds of significance for GHGs. CARB released a preliminary draft proposal on recommended approaches for setting interim significance thresholds for GHGs under CEQA in October 2008. CARB is holding public workshops and soliciting comments regarding these interim recommendations, and no statewide significance thresholds have been adopted as of the writing of this document (CARB 2008b).

Regional and Local Plans, Policies, Regulations, and Ordinances

In April 2009, BAAQMD, Bay Area Air Quality Management District, released the draft options report for CEQA thresholds of significance for evaluating the adverse environmental effects that a proposed land development project may have on global climate change due to its emissions of GHGs. These threshold options are in the preliminary draft stage. BAAQMD has held public workshops to solicit input on the threshold options, but the preliminary thresholds of significance have not been adopted as of the writing of this document (BAAQMD 2009).

Impact Analysis

As stated above, no federal, state, or local agency has adopted a significance threshold for analyzing project-generated GHG emissions or a methodology for analyzing air quality impacts related to climate change as of the writing of this document.

Project Generated Greenhouse Gas Emissions

Short-term construction and long-term operation of the development contemplated under the proposed action would generate emissions of GHGs. Construction-related GHG emissions would be associated with vehicle engine exhaust from construction equipment, vendor trips, and construction worker commuting trips. Operational emissions would be associated with area, mobile, and stationary sources. Area-source emissions would be associated with activities such as natural gas use and maintenance of landscaping and grounds. Mobile-source emissions of GHGs would include vehicle trips associated with employees, dependents, visitors, and deliveries to the proposed

site. In addition, increases in stationary-source emissions would occur at off-site utility providers associated with electricity generation and water distribution that would supply the proposed action. The proposed action would be supplied with electricity and water, the delivery and/or generation of which would lead to indirect off-site emissions of GHGs.

GHG emissions generated by the proposed action would predominantly consist of CO_2. Although emissions of other GHGs such as CH_4 and N_2O also contribute to global climate change, these GHGs are emitted in much smaller quantities than CO_2, from the emissions-generating activities associated with the proposed action. This is because mobile sources would be the primary source of GHG emissions associated with the proposed action, and CH_4 and N_2O represent a negligible portion of the GHGs associated with the burning of gasoline and diesel fuel in mobile sources (CCAR 2009).

Alternative A: Reuse Plan Amendment (Preferred Alternative)

Construction under Alternative A (Preferred Alternative) would generate a finite quantity of approximately 603 metric tons of CO_2e over the duration of construction activities (estimated to occur in 2010). Construction activity would contribute GHG emissions to a much lesser extent than the long-term operation of Alternative A, for which emissions would occur annually over the lifetime of the project. Buildout of Alternative A would add approximately 2,431 vehicle trips per day to the area (see Section 4.10 Traffic and Circulation). The trip generation accounts for the proposed action's proximity to transit and the higher likelihood of transit use due to the low income nature of the housing development. If the total vehicular trips, as well as area-source and offsite stationary-source GHG emissions are considered, operation of Alternative A would generate total GHG emissions of approximately 5,263 metric tons of CO_2e annually during the lifetime of the proposed action. Table 5-2 shows the estimated GHG emissions due to construction and operation of Alternative A, and their contribution to BAAQMD, California, and U.S. inventories of CO_2e.

Table 5-2
Summary of Modeled Project-Generated, Construction- and Operation-Related Emissions of Greenhouse Gases (Carbon Dioxide Equivalent)

Source	Estimated Emissions (CO_2e)[1]
Construction-related emissions (to occur in 2010)	603 metric tons
Operational Emissions (2011)	
Area Sources	725 TPY
Mobile Sources[2]	3,348 TPY
Electricity Consumption[3]	1,118 TPY
Water Consumption (energy for conveyance, treatment, distribution, and wastewater treatment)[4]	72 TPY
Total GHG emissions	**5,263 TPY**
Proposed Action's Contribution to Alameda County Inventory of CO_2e (2020)[5]	0.004 %
Proposed Action's Contribution to California Inventory of CO_2e (2020)[6]	0.0009 %
Proposed Action's Contribution to U.S. Inventory of CO_2e (2020)[7]	0.0001 %

[1] Emissions were modeled using the URBEMIS 2007 (Version 9.2.4) computer model, based on trip generation rates obtained from Section 4.10, Traffic and Circulation, of this EA; proposed alternatives identified in Chapter 2, Alternatives, Including the Proposed Action; and default model assumptions where detailed information was not available. URBEMIS accounts for emissions from vehicles and natural gas use. URBEMIS output is in units of tons CO_2/year, whereas a standard unit for reporting GHG emissions is in metric tons CO_2e/year. URBEMIS does not include emission factors for CH_4 and N_2O. Tons were converted to metric tons using the factor of 0.907 metric tons per ton.

[2] Mobile-source emissions were calculated using the same assumptions as those used in the NEPA emissions analysis (Section 4.11, Air Quality).

[3] Indirect operational emissions for electricity generation were calculated using GHG emission factors from the California Climate Action Registry (CCAR) General Reporting Protocol, Version 3.1 January 2009, Appendix C. Building electricity consumption was estimated based on California Energy Commission (CEC) energy use data (CEC 2006b).

[4] Electricity consumption data for water supply was obtained from the CEC report on Energy – Water Relationship (CEC 2005). CCAR emission factors were used to calculate GHG emissions due to water consumption.

[5] GHG emissions in the Bay Area Air Basin are forecast to be approximately 128 million metric tons (MMT) of CO_2e by 2020 under a business-as-usual scenario (BAAQMD 2008).

[6] CARB estimates that 2020 business-as-usual GHG emissions in California will be 596 MMT CO_2e (CARB 2008c).

[7] 2020 business-as-usual GHG emissions in the U.S. are forecast to be 9.2 billion MMT CO_2e.

GHG = greenhouse gas; CO_2e = carbon dioxide equivalent; TPY = tons (metric) per year

Notes: It is expected that the proposed action's operational GHG emissions would decrease in the subsequent years since reductions would be achieved through state regulatory measures such as the AB 32 Early Action Measures (adopted in July 2007). These emissions are conservatively compared to the county and state inventories for 2020.
The values presented in this table do not include the full life-cycle of GHG emissions that may occur over the production/transport of materials used during construction of the project or solid waste disposal over the life of the project, end-of-life of the materials, and processes that would contribute to GHG emissions that occur as an indirect result of the project, etc. Doing so would require analysis beyond the current capabilities in impact assessment, and would lead to a false and misleading level of precision in reporting of project-related GHG emissions. Further, indirect emissions associated with in-state energy production and solid waste disposal would be regulated under AB 32 at the source or facility that would handle these processes. The emissions associated with off-site facilities in California would be closely controlled, reported, capped, and traded under AB 32 and CARB programs. Therefore, this category of emissions would be consistent with AB 32 requirements.
Refer to Appendix B for detailed assumptions and modeling output files.

Alternative B: No Action Alternative

Under the No Action Alternative, the NAS Alameda North Housing Parcel would remain under federal control in a caretaker status. Activities would be limited to maintenance and security activities associated with the site. No new houses would be constructed associated with the No Action Alternative. Therefore, no additional GHG emissions would be anticipated under this alternative.

Emissions Reduction Measures

Implementation of future regulations for building energy efficiency, fuel efficiency for vehicles, use of renewable fuels, and alternative forms of energy are expected to reduce GHG emissions. Stationary- and mobile-source measures and regulations on the horizon would assist in further lowering GHG emissions under the proposed action. It is expected that GHG emissions reductions will be achieved through state regulatory measures such as the AB 32 Early Action Measures (adopted in July 2007). Also, additional GHG reductions for mobile sources may be available through legislation such as AB 1493, which would create more stringent vehicle emission standards for GHGs. Net GHG emissions under buildout assumptions under the proposed action would likely be lower than those presented in Table 5-2, given the likelihood of future legislative and regulatory actions. However, the anticipated amount of GHG reduction could not be determined at this time.

Summary

Emissions of GHGs are dispersed worldwide throughout the atmosphere, and the effects of climate change are borne globally, unlike emissions of criteria air pollutants, which have regional and/or local impacts on air quality. It is uncertain to what extent emissions of GHGs attributable to the proposed action can be treated as a net increase.

To date, research on how emissions of CO_2 and other GHGs influence global climate change and associated effects has focused on the overall impact of emissions from aggregate regional or global sources. This is primarily because GHG emissions from single sources are small relative to aggregate emissions, and GHGs, once emitted from a given source, become well mixed in the global atmosphere and have a long atmospheric lifetime. Analyses of climate change impacts often focus on climate scenarios, and the information to analyze small changes in climate variables is not

generally available in the research community (USCCSP 2008). Moreover, regional and local climates will change as the global climate changes. Changes in global climate variables will be reflected in regional and local changes in average climate variables, and in the variability and patterns of climate, such as seasonal and annual variations, the frequency and intensity of extreme events, and other physical changes, such as the timing and amount of snowmelt. Impact assessments often rely on highly localized data for both climate and other conditions and circumstances (USCCSP 2008).

The climate change research community has not yet developed tools specifically intended for evaluating or quantifying end-point impacts attributable to the emissions of GHGs from a single source. This analysis relies on the best available methodology and science to estimate the amount of GHG emissions that would be associated with the proposed action. In particular, because of the uncertainties involving the assessment of such emissions regionally and globally, the incremental contribution of this proposed action on global climate change cannot be accurately determined given the current state of the science and assessment methodology.

5.3 SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

NEPA requires an EA to address the relationship between short-term uses of the environment and the impact that such uses may have on the maintenance and enhancement of the long-term productivity of the environment. Of particular concern are impacts that would narrow the range of beneficial uses of the environment. This refers to the possibility that choosing one development option would reduce future flexibility in pursuing other options or that committing a parcel of land or other resource to a certain use would eliminate the possibility of other uses being performed at that site.

The Preferred Alternative would entail the disposal and reuse of the North Housing Parcel at NAS Alameda. The action would commit the site to long-term residential use and thereby preclude its use for alternate long-term or short-term purposes.

Development of the site would involve certain short-term activities that would provide employment opportunities for persons involved in building construction. These short-term construction activities may result in localized adverse environmental impacts such as increased traffic, noise, and air quality. However, implementation of the construction, design, and mitigation measures proposed to minimize these impacts would reduce potential adverse impacts. The impacts that would result from construction-related

activity would cease upon the completion of this activity and would not have an adverse impact on the maintenance and enhancement of long-term productivity.

Balanced against short-term negative impacts associated with construction activities is the benefit that this action would provide by disposing of and redeveloping the parcel to be consistent with the amended Community Reuse Plan identified in Section 1.1. As well as meet future low- and moderate-income housing needs.

5.4 COMMITMENT OF NONRENEWABLE RESOURCES

NEPA requires an analysis of significant irreversible effects. Resources that are irreversibly or irretrievably committed to an action are those that are utilized on a long-term or permanent basis. This includes the use of nonrenewable resources such as metal, wood, fuel, paper, and other natural or cultural resources. These resources are considered nonretrievable in that they would be used for an action when they could have been conserved or used for other purposes. Another impact that falls under the category of irreversible and irretrievable commitment of resources is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

Implementation of the Preferred Alternative would result in an irretrievable commitment of building materials and fuel for construction vehicles and equipment. In addition, the Preferred Alternative would commit workforce time for construction, engineering, environmental review, and compliance, as well as maintenance after project completion.

A potential impact that could be considered an irreversible or irretrievable commitment of environmental resources is the unavoidable destruction of biological and cultural resources. The Preferred Alternative would not cause the irreversible commitment of biological resources or an irretrievable commitment of cultural resources.

The Preferred Alternative would result in increased demand for energy, water, and public services, and increased generation of wastewater. These commitments of resources are neither unusual nor unexpected, given the nature of the action, and are generally understood to be tradeoffs for the benefits of disposal and redevelopment projects. The irreversible or irretrievable impacts associated with the Preferred Alternative have been discussed in detail for each specific environmental resource in previous sections of this EA.

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APT #302
ALAMEDA, CA 94501

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CHAPTER 10.0
RESPONSES TO COMMENTS

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-----Original Message-----
From: Lauren Do [mailto:laurendo@gmail.com]
Sent: Wednesday, July 29, 2009 16:33
To: McCay, Patrick J CIV OASN (I&E) BRAC PMO West
Subject: Alameda North Housing Disposal and Reuse

Good afternoon:

I only have one question, if Alternative A is not approved, in Alternative B, what then happens to the land? LD-1

Thank you for your assistance.

Regards,

Lauren Do

--
www.laurendo.com

LD-1. Section 2.2.2 of the EA describes the results of the No Action Alternative as follows: "the Navy would retain ownership of the property available for conveyance at NAS Alameda. The property would be held in an inactive or caretaker status, until such time as a new transfer plan can be identified. On-site activities would be limited to security, maintenance, cleanup, and other actions associated with caretaker status. Site environmental cleanup would continue until completed. For comparative purposes throughout this document, it is assumed that a caretaker and maintenance staff of approximately two persons would be required. Under the No Action Alternative, existing interim leases would be allowed to expire and no new leases or subleases would be executed."

U.S. Department of Homeland Security
United States Coast Guard

Commander
Maintenance & Logistics
Command Pacific

Chief, Civil Engineering Division
1301 Clay Street, Suite 700N
Oakland, CA 94612-5203
Staff Symbol: (sts/yl)
Phone: (510) 637-5524
Fax: (510) 637-5513
Email: yvan.le@uscg.mil

11011

AUG 14 2009

Department of the Navy
BRAC PMO West
Attn: Mr. Patrick McCay
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

Dear Mr. McCay:

My office and I appreciate the opportunity to review your *Naval Air Station Alameda North Housing Disposal and Reuse Draft Environmental Assessment (EA), Alameda, California (July 2009)* document. The United States Coast Guard (USCG) has no objection to the proposed reuse of the North Housing Parcel for residential development. However, we do not concur the proposed housing project will result in "no significant impact" to traffic and circulation. The following items will need to be further addressed in the EA:

1. The USCG Housing office will be separated from Marina Village Housing by the proposed housing development. We seek assurances that future development of the North Housing Parcel will not impede or block access, vehicular or pedestrian, to our housing office along Singleton Avenue (See Figure 1 below). **USCG-1**

Figure 1: Proposed Development Area

USCG-1. Marina Village Housing would retain its present access and spatial relationship with the USCG Housing Office. The Housing Office is in the northwest corner of the intersection of Singleton Avenue and Mosley Avenue; Marina Village Housing is across Singleton Avenue on the south. There are sidewalks on the roads on all sides of the intersection, which is controlled by four-way stop signs. Pedestrian crosswalks are striped across Singleton Avenue on both sides of Mosley Avenue, and across Mosley north of Singleton. The proposed action would not change the conditions for access between the Housing Office and Marina Village Housing.

2. Island High School was an elementary school six years ago and vehicular traffic was limited staff and a limited number of parents driving their children to school. It is now a small continuation high school that serves a wider population base where some students drive themselves to school, in addition to teachers, staff, and parents. We recommend that the EA consider an alternative to providing an easterly access to the new housing area and its schools. USCG-2

3. Presently, the North Housing parcel is only accessible from Main Street via Singleton Avenue as the gate at the southern end of Mosley Avenue to Willie Stargell Avenue in the Marina Housing, is closed. Your proposed project as shown on Table 4.20-2 and page 4-28, assumes that this gate will be opened to provide additional access to the North Housing Parcel via Mosley Avenue. The EA overlooks the fact that the gate is under USCG control and opening it remains problematic as Mosley Avenue is an internal minor street, fronted by several housing units, that was never intended for the use as a through street. USCG-3

4. Additionally, the EA assumes that only 75 vehicles would travel on Mosley to Willie Stargell in the morning peak hour and 53 vehicles in the afternoon peak hour and create a nearly unacceptable "E" Level of Service (LOS). We believe the EA has underestimated these volumes as it did not assume that Willie Stargell Avenue would be widened to four lanes from two in the mid-term future. However, the City of Alameda approved such a project in May of 2008, and construction work is presently underway. When widened, Willie Stargell Avenue, via Mosley Avenue could become the preferred access route to downtown Alameda from the North Housing Parcel, instead of westerly via Singleton Avenue to Main Street to Ralph Appezzato Memorial Parkway. A signalized intersection is justified at the Mosley and Willie Stargell intersection based on the predicted LOS, and especially if traffic volumes increase. USCG-4

5. "Connect the North Housing Parcel to the waterfront with green streets and open-space corridors" is listed as one of the design principles in the Main Street Neighborhoods document (City of Alameda 2008) discussed on pages 1-2 of the Draft EA. Such a northward roadway connection is not included in the EA and could potentially reduce the traffic volume on Mosley Avenue to Willie Stargell Avenue. USCG-5

6. The City of Alameda's Willie Stargell Avenue Extension Project itself will create significant safety, noise, and pollution impacts to our USCG Housing area to the north. Your EA needs to address the cumulative impacts of the North Housing project to determine if mitigation measures such as a sound-wall, sound attenuating foliage and landscaping, and/or traffic calming may be required. USCG-6

7. In summary, at a minimum, we want to see the Mosley Avenue and Willie Stargell Avenue intersection signalized. Our preference would be to implement traffic calming measures along Willie Stargell Avenue given the school USCG-7

USCG-2. Island High School was operating as a continuation high school at the time the traffic study for the proposed action was conducted, and was therefore taken into account in the study. While the school was previously used as an elementary school, it was not being utilized in that capacity at the time of the traffic study. The proposed action would thus not change conditions related to the high school. An easterly access between the proposed Alameda Landing project and the North Housing parcel has been discussed by the City of Alameda. However, at this time, such a connection has not been formally agreed upon.

USCG-3. The traffic study did assume Mosley Avenue would be open to through traffic and assigned traffic to this route. Supplemental analysis has since been conducted assuming the gate continues to be closed. In this model, all project traffic followed Singleton Avenue to Main Street from whence it was distributed according to the generalized distribution patterns. This routing of traffic resulted in no adverse impacts at study area intersections and improved the LOS at the Mosley Avenue/Willie Stargell Avenue intersection from E to D, with no project traffic using Mosley Avenue. The proposed project does not require and does not advocate eliminating the closed gate.

USCG-4. As stated in the EA section 4.10.1 "A 15 percent transit reduction was applied to account for a higher use of mass transit." This methodology along with the trip rates used for apartments and homeless accommodations identified in the footnotes of table 4.10-1 account for estimated trips for the project. Additional, the project approved by the City of Alameda in May 2008 did not widen Willie Stargell Avenue to four lanes, but rather realigned the existing lanes. Willie Stargell Avenue is projected to remain a two-lane street in the near future. The North Housing project traffic study assigned a reasonable volume of project traffic, but not all, to Willie Stargell Avenue. Based on those traffic projections, no traffic signal at the Mosley Avenue/Willie Stargell Avenue intersection is warranted at this time. Further traffic studies are planned to address the development of Alameda Point, once the Alameda Point Specific Plan is adopted by voters. See the preceding response and also response USCG-7 below.

USCG-5. No northward roadway extension from the North Housing Area is specifically designated in the Main Street Neighborhoods document. The northernmost eight acres of the North Housing Area are proposed for development as a public park, not as streets with vehicular access. Connections northward from the North Housing Area and other nearby neighborhoods would be allowed in the form of bicycle and pedestrian access. As the EA states, the redevelopment of the North Housing Area is "closely guided by the amended Community Reuse Plan and associated City policies with the intent to create a comprehensive and cohesive community" (p. 4-2).

Subj: NAVAL AIR STATION ALAMEDA NORTH HOUSING DISPOSAL AND REUSE DRAFT ENVIRONMENTAL ASSESSMENT (EA) 11011

population, and the residential nature of Marina Village Housing, as well as at Bayport. Safety, noise, and air pollution should be of paramount concern given that the North Housing project seeks alternative exits to the north as envisioned in the Main Street Neighborhood planning guidance, or to the east to relieve pressure from Island High School.

USCG-7 cont.

If you have questions, please contact my Environmental Protection Specialist, Mr. Yvan Le available at (510) 637-5524 or email at Yvan.Le@uscg.mil.

Sincerely,

LEO A. LOZANO
Assistant Chief, Civil Engineering Division
U. S. Coast Guard
By direction

3

USCG-6. The Mitigated Negative Declaration (MND) for the Tinker [Willie Stargell] Avenue Extension Project (Appendix D), prepared by the City of Alameda and dated May 31, 2000, addressed traffic, noise, and air quality concerns related to the USCG Housing Area. These concerns were based on buildout projections to 2020, with Willie Stargell Avenue as a four-lane street. The MND found that the extension project "would be expected to have ***less than significant*** impacts associated with the project-related increase in localized emissions of carbon monoxide, since traffic moving along Tinker Avenue would not be expected to generate carbon monoxide at levels that would result in emissions that exceed State and Federal standards" (p. 37). With respect to exposure of sensitive receptors (including adjacent residences such as the USCG housing), the MND found that with mitigation included in the extension project, the project would have less than significant impacts during both construction and operation (pp. 38-39). Since these conclusions were based on Willie Stargell Avenue as a four-lane street carrying appreciably more traffic from the buildout of the former NAS Alameda, and since Willie Stargell Avenue is now two lanes, no significant air quality impacts would result from the North Housing project.

With respect to noise, Willie Stargell Avenue remains a two-lane street south of the USCG housing. It may be widened to four lanes in the future; if and when that occurs, the City will evaluate noise impacts and mitigation at USCG residences along the frontage south of Marina Village housing. With regard to the Willie Stargell Improvement project approved by the City in May and recently completed, the City has assured the Navy that "the project isn't entirely built out yet and in its ½ built condition no noise mitigations are needed" (Debbie Potter, personal communication by email, 24 September 2009).

With regard to safety, the Willie Stargell Avenue extension is designed to meet City of Alameda and standard roadway design criteria, and the MND found no public safety impact due to design features or on emergency access or parking capacity (p.113).

Mitigation for the impacts of building out Willie Stargell Avenue to four lanes, when and if that occurs, will be the responsibility of the City of Alameda. The Willie Stargell Avenue Extension has been included in the list of projects in Table 5-1 in the cumulative impacts section of the Final EA. All of its impacts would be mitigated to a less than significant level, and it would require no changes to the discussion of impacts in Section 5.1 of the EA.

USCG-7. The traffic study did project the Mosley Avenue/Willie Stargell Avenue intersection to operate at LOS E with Mosley Avenue open at the intersection. On p. 4-35, the EA states, "the delay reflects the southbound movement;" that is, the traffic that would use Mosley Avenue if the gate were open. Modeling operations with the gate closed (no traffic southbound on Mosley Avenue entering the intersection) results in improving the LOS to D. As stated in the USCG comments, USCG controls the gate; opening it is not proposed as part of the North Housing project. In any case, a signal is not warranted whether the gate is open or closed.

Subj: NAVAL AIR STATION ALAMEDA NORTH HOUSING DISPOSAL AND REUSE DRAFT ENVIRONMENTAL ASSESSMENT (EA) 11011

Copy: United States Coast Guard Integrated Support Command Alameda
United States Coast Guard Civil Engineering Unit Oakland
United States Coast Guard Maintenance & Logistics Command Pacific (k)
United States Coast Guard Maintenance & Logistics Command Pacific (l)
United States Coast Guard Maintenance & Logistics Command Pacific (p)

EAST BAY
MUNICIPAL UTILITY DISTRICT

July 31, 2009

Patrick McCay
BRAC PMO West
1455 Frazee Road, Suite 900
San Diego, CA 92108

Re: Draft Environmental Assessment – Naval Air Station Alameda North Housing Disposal and Reuse, Alameda

Dear Mr. McCay:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Draft Environmental Assessment (EA) for the Naval Air Station Alameda North Housing Disposal and Reuse located in Alameda. EBMUD has the following comments.

WATER SERVICE

EBMUD's Central Pressure Zone, with a service elevation between 0 and 100 feet, serves the existing property from separate domestic and fire service meters located off and near Main Street. As EBMUD's responsibility ends at the meter location, all pipelines past the meter within the existing property are privately owned and operated by the property owner. Once the site is redeveloped, public water main extensions, at the project sponsor's expense, will be required to serve the proposed development. Off-site pipeline improvements, also at the project sponsor's expense, may be required to meet domestic demands and fire flow requirements set by the local fire department. Off-site pipeline improvements include, but are not limited to, replacement of existing water mains to the project site. When the development plans are finalized, the project sponsor should contact EBMUD's New Business Office and request a water service estimate to determine costs and conditions for providing water service to the proposed development. Engineering and installation of water mains and services requires substantial lead-time, which should be provided for in the project sponsor's development schedule. EBMUD-1

EBMUD will not inspect, install or maintain pipeline in contaminated soil or groundwater (if groundwater is present at any time during the year at the depth piping is to be installed) that must be handled as a hazardous waste or that may pose a health and safety risk to construction or maintenance personnel wearing Level D personal protective equipment. Nor will EBMUD install piping in areas where groundwater contaminant concentrations exceed specified limits for discharge to sanitary sewer systems or sewage treatment plants. Applicants for EBMUD services requiring excavation in contaminated areas must submit copies of existing information regarding soil and groundwater quality within or adjacent to the project boundary. In addition, the applicant must provide a legally sufficient, complete and specific written remedial plan establishing the

375 ELEVENTH STREET • OAKLAND • CA 94607-4240 • TOLL FREE 1-866-40 -EBMUD

EBMUD-1. For this response and EBMUD-2 and EBMUD-4, EBMUD's requirements would be included in the contract for development of the North Housing Area. Once the site has been proposed for development, the individual entities would be required to ensure that East Bay Municipal Utility District (EBMUD) can adequately supply water to the proposed population. When the development plans are near finalization, the individual entities would contact the EBMUD New Business Office and request a water service estimate to determine the cost and conditions. If installation of water delivery facilities requires excavation in contaminated areas, the individual entities would submit completed studies and a remedial plan for all identified contaminated groundwater.

methodology, planning and design of all necessary systems for the removal, treatment, and disposal of all identified contaminated soil and/or groundwater. EBMUD will not design the installation of pipelines until such time as soil and groundwater quality data and remediation plans are received and reviewed and will not install pipelines until remediation has been carried out and documentation of the effectiveness of the remediation has been received and reviewed. If no soil or groundwater quality data exists or the information supplied by the applicant is insufficient EBMUD may require the applicant to perform sampling and analysis to characterize the soil being excavated and groundwater that may be encountered during excavation or perform such sampling and analysis itself at the applicant's expense.

EBMUD-1 cont.

WASTEWATER

EBMUD's Main Wastewater Treatment Plant (MWWTP) and interceptor system are anticipated to have adequate dry weather capacity to treat the proposed wastewater flows from the proposed development, provided that the wastewater meets the requirements of the current EBMUD Wastewater Control Ordinance. However, wet weather flows are a concern. EBMUD has historically operated three Wet Weather Facilities (WWFs) to provide treatment for high wet weather flows that exceed the treatment capacity of the MWWTP. On January 14, 2009, due to the Environmental Protection Agency (EPA) and State Water Resources Control Board's re-interpretation of applicable law, the Regional Water Quality Control Board issued an order prohibiting further discharges from EBMUD's WWFs.

Currently, there is insufficient information to forecast how these changes will impact allowable wet weather flows in the individual collection system subbasins contributing to the EBMUD wastewater system, including the subbasin in which the proposed project is located. As ordered by EPA, EBMUD is conducting extensive flow monitoring and hydraulic modeling to determine the level of flow reductions that will be needed in order to comply with the new zero-discharge requirement at the WWFs. It is reasonable to assume that a new regional wet weather flow allocation process may occur in the East Bay, but the schedule for implementation of any new flow allocations has not yet been determined.

EBMUD-2

In the mean time, the lead agency should require the project applicant to incorporate the following measures into the proposed project: (1) replace or rehabilitate any existing sanitary sewer collection systems to reduce inflow and infiltration (I/I) and (2) ensure any new wastewater collection systems for the project are constructed to prevent I/I to the maximum extent feasible.

EBMUD-2. The measures requested by EBMUD would be required of the individual entities of the North Housing Area, and, by this response, are incorporated into the Final EA as part of the proposed action.

WATER RECYCLING

EBMUD requests the following be included in Section 3.5.1, Water Supply and Distribution, on page 3-22 of the Draft EA:

EBMUD-3

EBMUD-3. The paragraph requested by EBMUD has been included in Section 4.5.1 of the Final EA rather than 3.5.1 since this would be a requirement for the project, and Chapter 3 relates to existing conditions..

EBMUD's Policy 8.01 requires that customers use non-potable water for non-domestic purposes when it is of adequate quality and quantity, available at reasonable cost, not detrimental to public health and not injurious to plant life, fish and wild life to offset demand on EBMUD's limited potable water supply. The proposed project site is located within the service area boundary of EBMUD's East Bayshore Recycled Water Project. As part of the water supply planning, EBMUD will consider the feasibility of providing recycled water to the project area for appropriate uses including landscape irrigation, commercial applications, industrial process uses, and other applications. EBMUD recommends that the Department of the Navy require developers to coordinate and consult with EBMUD regarding the feasibility of providing recycled water for appropriate non-potable purposes.

EBMUD-3 cont.

WATER CONSERVATION

The proposed project presents an opportunity to incorporate water conservation measures. EBMUD would request that the Department of the Navy include in its conditions of approval a requirement that the project sponsor comply with Assembly Bill 325, Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). The project sponsor should be aware that Section 31 of EBMUD's Water Service Regulations requires that water service shall not be furnished for new or expanded service unless all the applicable water-efficiency measures described in the regulation are installed at the project sponsor's expense. EBMUD staff would appreciate the opportunity to meet with the project sponsor to discuss water conservation programs and best management practices applicable to the integrated projects. A key objective of this discussion will be to explore timely opportunities to expand water conservation via early consideration of EBMUD's conservation programs and best management practices applicable to the project.

EBMUD-4

If you have any questions concerning this response, please contact David J. Rehnstrom, Senior Civil Engineer, Water Service Planning at (510) 287-1365.

Sincerely,

David J. Rehnstrom

for William R. Kirkpatrick
Manager of Water Distribution Planning

WRK:AMW:djr
sb09_172.doc

EBMUD-4. The individual entities would be required to meet with EBMUD before design of the development as requested and to comply with Section 31 of EBMUD's Water Service Regulations and Assembly Bill 325. Development of the North Housing Area would comply with existing General Plan policies that encourage the implementation of water conservation measures and drought tolerant landscaping. These measures would be consistent with City of Alameda Landscape Water Conservation Guidelines, State law, and EBMUD water service regulations and obligations under the Urban Water Management Planning Act and water rights agreements.

APPENDIX A

CULTURAL NO HISTORIC PROPERTIES AFFECTED REPORT AND SHPO CONCURRENCE

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

11011
Ser BPMOW.pjm/0234
APR 23 2009

Mr. Milford Wayne Donaldson
State Historic Preservation Officer
Department of Parks and Recreation
1416 Ninth Street, Rm. 1442
Sacramento, CA 94296-0001

Dear Mr. Donaldson:

This letter continues consultation with your office on the Base Realignment and Closure Program Management Office West (BRAC PMO West) proposal to transfer all built properties and open space at the "North Housing Parcel" at the former Naval Air Station (NAS) Alameda and to convey the land to the Alameda Redevelopment and Reuse Authority (ARRA) and the identified homeless and public benefit conveyance sponsors (Undertaking). Prior correspondence dated February 5, 2009 initiated consultation on the proposed Undertaking. BRAC PMO West respectfully requests your comments and concurrence on its finding of "no historic properties affected" within 30 days, consistent with 36 CFR 800.4(d)(1)(i).

Under the proposed Undertaking, the North Housing Parcel would be transferred by the Navy to the ARRA and the identified homeless and public benefit conveyance sponsors. Ultimately, the sponsoring federal agency and ARRA would then convey land to the receiving homeless providers and/or non-profit entities. Property recipients would reuse the property in accordance with the amended reuse planning guidelines adopted by the City of Alameda in December 2008. Any additional acreage not identified for public benefit or homeless needs would be transferred by the Navy under another transfer mechanism pursuant to BRAC law. The proposed Undertaking may also involve the demolition of all 51 buildings in the North Housing Parcel. The reuse of the property could include the new construction of 90 units for homeless accommodations, new construction of up to 30 new units under a sweat-equity model of affordable housing and the potential renovation of up to 32 units of the existing housing. In the circumstance where additional acreage is not identified for public benefit or homeless uses, the Navy may choose to auction the land for a use to be identified by the future land owner. In order to support the reuse of the housing area, the proposed Undertaking would also include improvements to the roads and utilities, and the reuse of the existing open space for youth sports activities. Depending upon the ultimate configuration of the redevelopment, the open space / park could be relocated within the North Housing Parcel.

The Area of Potential Effects (APE) for this Undertaking is located in the northeast portion of the former NAS Alameda and includes the entire footprint of the North Housing Parcel area. This APE contains the housing units located on Mosely Avenue, Singleton Avenue, Mayport Circle, Kollman Circle, Monterey Circle, Lakehurst Circle, and Annapolis Circle. The APE also contains approximately 8 acres of open space to the north of Mosley Avenue. The open space consists of a recreational baseball field, a green-space, two soccer fields, and a concrete

basketball court. It is anticipated that any required laydown areas would be confined to this APE. Enclosure (1) identifies the APE for this Undertaking.

On February 5, 2009, the Navy initiated consultation with the State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP), the Alameda Naval Air Museum (ANAM), the Alameda Architectural Preservation Society (AAPS), the Alameda Reuse and Redevelopment Authority, the Muwekma Ohlone Tribe of the San Francisco Bay Area, and Mr. Aidan Barry. This initiation of consultation letter included a description of the undertaking, the Area of Potential Effect (APE), and the plan for future consultation with the same parties on the identification of historic properties and the finding of effect. The Navy received responses from AAPS, ANAM, and ACHP. In a February 17, 2009 telephone call from Ms. Marilyn York of ANAM and a February 24, 2009 email from Ms. Elizabeth Krase of AAPS, ANAM and AAPS indicated no concerns on their part as interested parties regarding the proposed transfer, demolitions, and reuse in the proposed Undertaking. In a February 23, 2009 letter addressed to me and a February 18, 2009 email to Senior Historian Erica Spinelli, the ACHP indicated a desire for the Navy to consider potential cumulative effects arising from the proposed undertaking and other undertakings at NAS Alameda. The ACHP did not indicate any specific concerns regarding the current Undertaking and encouraged the Navy to continue its consultation efforts with SHPO and other consulting parties. On April 2, 2009, the Navy received a response from SHPO regarding the initiation of consultation letter (USN090209A). In this letter, the SHPO concurred with the Area of Potential Effects (APE) and the plan for continued consultation.

In 1996, the Navy investigated the potential presence of archaeological resources located on the North Housing Parcel. Thorough background research was conducted under a Navy contract by PAR Environmental Services in the report titled "An Archaeological Evaluation of the Fleet Industrial Supply Center – Alameda Annex/Facility and Naval Air Station Alameda Family Housing" (Maniery et al.1996). This report provided a summary of the records search, an analysis of historic land use, and the results of a pedestrian archaeological survey. According to an 1857 historic map of the area, all of the Navy's property at former NAS Alameda (including the North Housing Parcel) is on fill and was not part of the original configuration of the peninsula. The only areas in Alameda that are known to have archaeological sites are in the original Encinal, which is outside the former NAS Alameda base boundaries and outside the APE for the current undertaking. Based on this information, the Navy has determined that the likelihood of encountering intact archaeological sites within the former NAS Alameda area is very low. The entire APE was part of the San Francisco Bay until filling began in 1920s and 1930s. The six recorded archaeological sites including the Sather Mound site are all located in the Encinal, which is the original high ground, and not within the former NAS Alameda boundary. A 1918 historic map of the area, which was formerly Fleet Industrial Supply Center, Alameda Annex/Facility and NAS Alameda Family Housing, indicates that it was being filled. This area was surveyed during Maniery et al. 1996 report and no archaeological resources were identified. Attached for your reference is the PAR Environmental Services report titled "An

Archaeological Evaluation of the Fleet Industrial Supply Center – Alameda Annex/Facility and Naval Air Station Alameda Family Housing" (Enclosure 2).

Although a general Cold War-era evaluation of the former NAS Alameda has not been completed, the Navy has evaluated the North Housing Parcel with consideration of Cold War-era significance. In March 2009, the Navy completed a Department of Parks and Recreation (DPR 523) site form to evaluate all of the buildings, structures, and open space areas within the North Housing Area under the standard National Register of Historic Places criteria for eligibility and under Criterion Consideration G for properties less than 50 years of age. The site form provides a National Register of Historic Places evaluation for the following buildings and structures:

Building Address	Building #	Configuration	Area (Sq. ft)	Year Built
101 Singleton Avenue	1013	6-Plex	9230	1969
103 Singleton Avenue	1014	6-Plex	9230	1969
2001 Annapolis Circle	1015	6-Plex	9230	1969
2003 Annapolis Circle	1016	6-Plex	9230	1969
2000 Annapolis Circle	1017	6-Plex	9230	1969
2005 Annapolis Circle	1018	6-Plex	9230	1969
2002 Annapolis Circle	1019	6-Plex	9230	1969
201 Singleton Avenue	1020	6-Plex	9230	1969
2007 Annapolis Circle	1021	6-Plex	9230	1969
2004 Annapolis Circle	1022	6-Plex	9230	1969
2009 Annapolis Circle	1023	6-Plex	9230	1969
2000 Kollman Circle	1024	6-Plex	9230	1969
2002 Kollman Circle	1025	6-Plex	9230	1969
2004 Kollman Circle	1026	6-Plex	9230	1969
2006 Kollman Circle	1027	6-Plex	9230	1969
2008 Kollman Circle	1028	6-Plex	9230	1969
2010 Kollman Circle	1029	4-Plex	6670	1969
2000 Mayport Circle	1030	6-Plex	9230	1969
2001 Mayport Circle	1031	6-Plex	9230	1969
2002 Mayport Circle	1032	4-Plex	6670	1969
2004 Mayport Circle	1033	6-Plex	9230	1969
2003 Mayport Circle	1034	6-Plex	9230	1969
501 Mosley Avenue	1035	6-Plex	9230	1969
2005 Mayport Avenue	1036	6-Plex	9230	1969
2006 Mayport Circle	1037	6-Plex	9230	1969
2011 Mayport Circle	1038	4-Plex	6670	1969
2009 Mayport Circle	1039	6-Plex	9230	1969
2007 Mayport Circle	1040	6-Plex	9230	1969

Building Address	Building #	Configuration	Area (Sq. ft)	Year Built
401 Mosley Ave	1041	4-Plex	6670	1969
400 Mosley Avenue	1042	6-Plex	9230	1969
2000 Lakehurst Circle	1043	6-Plex	9230	1969
2001 Lakehurst Circle	1044	6-Plex	9230	1969
2003 Lakehurst Circle	1045	4-Plex	6670	1969
2005 Lakehurst Circle	1046	4-Plex	6670	1969
2002 Lakehurst Circle	1047	4-Plex	6670	1969
2007 Lakehurst Circle	1048	4-Plex	6670	1969
2004 Lakehurst Circle	1049	6-Plex	9230	1969
2009 Lakehurst Circle	1050	6-Plex	9230	1969
300 Mosley Ave	1051	4-Plex	6670	1969
2010 Monterey Circle	1052	6-Plex	9230	1969
2007 Monterey Circle	1053	6-Plex	9230	1969
202 Mosley Ave	1054	4-Plex	6670	1969
2005 Monterey Circle	1055	6-Plex	9230	1969
2008 Monterey Circle	1056	6-Plex	9230	1969
2006 Monterey Circle	1057	6-Plex	9230	1969
2003 Monterey Circle	1058	6-Plex	9230	1969
200 Mosley Ave	1059	4-Plex	6670	1969
2001 Monterey Circle	1060	6-Plex	9230	1969
2004 Monterey Circle	1061	4-Plex	6670	1969
2002 Monterey Circle	1062	6-Plex	9230	1969
2000 Monterey Circle	1063	6-Plex	9230	1969
Baseball Field	NONE	N/A	Approx. 50,000	Post-1969
Basketball Court	NONE	N/A	Approx. 5,000	Post-1969
Soccer Fields	NONE	N/A	Approx. 108,000	Post-1969
Open Space	NONE	N/A	Approx. 50,000	Post-1969

As the attached DPR 523 form (Enclosure 3) indicates, none of the buildings or structures located in the North Housing Parcel appears to meet the criteria for listing in the National Register of Historic Places. The Navy seeks your concurrence on this finding of "not eligible" for the buildings, structures, and open spaces located in the North Housing Parcel.

Per 36 CFR 800.4 (d)(1), the Navy's finding for this proposed Undertaking is "no historic properties affected." No archaeological properties were identified through archaeological survey of the North Housing Parcel. None of the buildings, structures, and open space areas located in the North Housing Parcel appears to meet the criteria for listing in the National Register. The Navy has determined that there is no potential for indirect effects on the NAS Alameda Historic District because the historic district and the North Housing Parcel, as indicated previously, are

visually separated by housing (not contributing to the district), a road, and a private storage company. The North Housing Parcel is thus well removed from any of the significant viewsheds in the NAS Alameda Historic District and reuse of this area will not have visual effects on the Historic District. Therefore, the Navy finds that the North Housing Parcel undertaking will not affect historic properties either directly, indirectly, or cumulatively.

Consistent with 36 CFR 800.4(d)(1)(i), the Navy finds that no historic properties will be affected by the proposed Undertaking and requests your concurrence with this finding within 30 calendar days of your receipt of this documentation. The Navy must promptly complete this project in order to meet its requirements for transfer and conveyance to the ARRA and the other identified organizations. Navy is concurrently seeking the input of consulting parties regarding this finding of no historic properties affected. Given the input received from ANAM and AAPS to date, the Navy does not anticipate any concerns from consulting parties regarding this finding.

If you have any comments or questions, please contact Dr. David Sproul (Historian for Naval Facilities Engineering Command, Southwest), at (619) 532-2819 or by email at david.sproul@navy.mil.

Sincerely,

Alan K. Lee

ALAN K. LEE
Base Closure Manager
By direction of the Director

Enclosures:
1. Map of North Housing Parcel depicting the APE
2. PAR Environmental Services Report, "An Archaeological Evaluation of the Fleet Industrial Supply Center – Alameda Annex/Facility and Naval Air Station Alameda Family Housing" (Maniery et al.1996)
3. DPR 523 site form for North Housing Parcel

11011
Ser BPMOW.pjm/0234
APR 23 2009

Blind copy to:
J. Hill
D. Sproul
P. McCay
X Drive file
Serial file

Writer: P. McCay, 2-0906
Typist: N. Lilley, 04/20/09

Email/20090413BRACAlamedaNorthHousingSHPOFOE.doc

Figure
Project Area

Enclosure (1) Area of Potential Effect, North Housing Area, Former Naval Air Station Alameda, California

AN ARCHEOLOGICAL EVALUATION OF THE FLEET INDUSTRIAL SUPPLY CENTER -- ALAMEDA ANNEX/FACILITY, AND NAVAL AIR STATION ALAMEDA FAMILY HOUSING (EAST AND NORTH), ALAMEDA COUNTY, CALIFORNIA

Prepared for:

Department of the Navy
Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-5006

June 1996

ENCL 2

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code 6Y

Other Listings _____
Review Code _____ **Reviewer** _____ **Date** _____

Page 1 ***Resource Name or #:** (Assigned by recorder) North Housing

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Alameda
and (P2b and P2c or P2d. Attach a Location Map as necessary)

***b. USGS 7.5' Quad** Oakland West, CA **Date** 1978 **T** ___; **R** ___; __ ¼ **of** __ ¼ **of Sec** _____; _____ **B.M.**

c. Address: Mosley Avenue and Singleton Avenue City Alameda Zip 94501

d. UTM: (Give more than one for large and/or linear resources) Zone 10S ; 562608 mE/ 4182427 mN; 562623 mE/ 4182655 mN; 563121 mE/ 4182648 mN; 563102 mE/ 4182350 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting and boundaries)

This form addresses the area known as the **North Housing** area, a former housing development at the former Naval Air Station (NAS) Alameda. Built in 1969, the North Housing Parcel is located outside the main boundary fence of the former NAS Alameda near the intersection of Mosley Avenue and Singleton Avenue.

(See Continuation Sheet.)

***P3b. Resource Attributes:** (List attributes and codes) HP3, HP30, HP34, HP46

P4. Resources Present: ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5a. Photo or Drawing (Photo required for buildings, structures and objects)

P5b. Description of Photo: (View, date, accession #) 202 Mosley Circle, units A-D, view to north; August 9, 2007

***P6. Date Constructed/Age and Sources:**
☒Historic
☐Prehistoric ☐Both
1969

***P7. Owner and Address:**
Department of the Navy, Base Realignment and Closure Program Management Office West (BRAC PMO WEST); 1455 Frazee Road, Suite 900 San Diego, CA 92105-4310

***P8. Recorded by:** (Name, affiliation, and address) David Sproul; Naval Facilities Engineering Command Southwest (NAVFAC SW); 1220 Pacific Highway; San Diego, CA 92132

***P9. Date Recorded:** January 10, 2009

***P10. Survey Type:** (Describe) site-specific

***P11. Report Citation:** (cite survey report and other sources, or enter "none.") None

***Attachments:** ☐**None** ☐Location Map ☒ Sketch Map ☒Continuation Sheet ☒Building, Structure and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐Other (List) _____

EAK

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

June 17, 2009 In reply refer to: USN090209A

Alan K. Lee
Base Closure Manager
Department of the Navy
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

Re: Transfer and Reuse North Housing Parcel, Naval Air Station (NAS) Alameda

Dear Mr. Lee:

Thank you for your letter dated April 23, 2009, requesting my review and comment with regard to the proposed undertaking at the former NAS Alameda. You are consulting with me in order to comply with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended, and its implementing regulation at 36 CFR Part 800. In support of your letter, you also submitted DPR 523 forms for the North Housing Area and the report titled, "An Archeological Evaluation of the Fleet Industrial Supply Center – Alameda Annex / Facility, and Naval Air Station Alameda Family Housing (East and North), Alameda County, California," dated June 1996 and prepared by PAR Environmental Services, Inc.

On February 5, 2009, you submitted a letter initiating this Section 106 consultation requesting my concurrence with your proposed APE and plan for ongoing consultation. I responded with my concurrence on both in a letter dated April 2, 2009.

Your most recent submission contains evaluated North Housing Parcel according to the Cold War-era context and found no historic properties located within the APE. Furthermore, the archaeological evaluation found that no archaeological properties were identified within the APE. Therefore, the Navy has applied the Criteria of Adverse Effect (36 CFR § 800. 5(a)(1)) and has concluded that the undertaking would have no effect on historic properties. Based upon a review of the materials you submitted with your letter, I concur with your finding and agree that pursuant to 36 CFR § 800.4(d) a finding of No Historic Properties Affected is appropriate for the undertaking as described.

Thank you for seeking my comments and considering historic properties as part of your project planning. If you have any questions or concerns, please contact Mark Beason, Project Review Unit historian, at (916) 653-8902 or at mbeason@parks.ca.gov.

Sincerely,

Susan K Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

APPENDIX B

URBEMIS OUTPUT DATA AND GREENHOUSE GAS EMISSION DATA

3/11/2009 8:55:47 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\URBEMISrun\NAS Alameda\NAS Alameda.urb924

Project Name: NAS Alameda Project

Project Location: Alameda County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

3/11/2009 8:55:47 PM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2010 TOTALS (lbs/day unmitigated)	76.22	56.09	65.31	0.06	200.02	3.22	203.24	41.78	2.96	44.73
2010 TOTALS (lbs/day mitigated)	76.22	56.09	65.31	0.06	29.17	3.22	31.82	6.09	2.96	8.52

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	25.05	3.38	7.58	0.00	0.03	0.03
TOTALS (lbs/day, mitigated)	25.05	3.38	7.58	0.00	0.03	0.03
Percent Reduction	0.00	0.00	0.00	NaN	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	20.25	30.07	228.24	0.21	42.14	8.14
TOTALS (lbs/day, mitigated)	18.96	27.84	211.36	0.19	39.02	7.53
Percent Reduction	6.37	7.42	7.40	9.52	7.40	7.49

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	45.30	33.45	235.82	0.21	42.17	8.17
TOTALS (lbs/day, mitigated)	44.01	31.22	218.94	0.19	39.05	7.56
Percent Reduction	2.85	6.67	7.16	9.52	7.40	7.47

Construction Unmitigated Detail Report:

3/11/2009 8:55:47 PM

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 1/1/2010-3/31/2010 Active Days: 64	5.26	**56.09**	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Demolition 01/01/2010-03/31/2010	5.26	56.09	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Fugitive Dust	0.00	0.00	0.00	0.00	29.03	0.00	29.03	6.04	0.00	6.04
Demo Off Road Diesel	3.50	26.25	15.30	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Demo On Road Diesel	1.71	29.75	8.85	0.04	0.14	1.02	1.15	0.04	0.94	0.98
Demo Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 4/1/2010-4/30/2010 Active Days: 22	7.21	50.71	30.24	0.00	**200.02**	**3.22**	**203.24**	**41.78**	**2.96**	**44.73**
Asphalt 04/01/2010-04/30/2010	3.00	16.95	11.48	0.00	0.01	1.42	1.43	0.00	1.31	1.31
Paving Off-Gas	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	15.97	9.18	0.00	0.00	1.39	1.39	0.00	1.27	1.27
Paving On Road Diesel	0.05	0.84	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03
Paving Worker Trips	0.07	0.14	2.05	0.00	0.01	0.01	0.02	0.00	0.00	0.01
Fine Grading 04/01/2010-04/30/2010	4.21	33.76	18.77	0.00	200.01	1.80	201.80	41.77	1.65	43.42
Fine Grading Dust	0.00	0.00	0.00	0.00	200.00	0.00	200.00	41.77	0.00	41.77
Fine Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01

Time Slice 5/3/2010-5/31/2010 Active Days: 21	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Time Slice 6/1/2010-9/30/2010 Active Days: 88	**76.22**	29.06	**65.31**	**0.06**	0.29	1.64	1.93	0.10	1.49	1.60
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 10/1/2010-12/30/2010 Active Days: 65	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00

Phase Assumptions

Phase: Demolition 1/1/2010 - 3/31/2010 - Default Emission Factors

Building Volume Total (cubic feet): 3898368

Building Volume Daily (cubic feet): 69120

On Road Truck Travel (VMT): 960

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 40

Maximum Daily Acreage Disturbed: 10

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/1/2010 - 4/30/2010 - Default Paving Description

Acres to be Paved: 2

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 5/3/2010 - 9/30/2010 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

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1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 6/1/2010 - 12/30/2010 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 1/1/2010-3/31/2010 Active Days: 64	5.26	**56.09**	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Demolition 01/01/2010-03/31/2010	5.26	56.09	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Fugitive Dust	0.00	0.00	0.00	0.00	29.03	0.00	29.03	6.04	0.00	6.04
Demo Off Road Diesel	3.50	26.25	15.30	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Demo On Road Diesel	1.71	29.75	8.85	0.04	0.14	1.02	1.15	0.04	0.94	0.98
Demo Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01

3/11/2009 8:55:47 PM

Time Slice 4/1/2010-4/30/2010 Active Days: 22	7.21	50.71	30.24	0.00	21.98	**3.22**	25.20	4.59	**2.96**	7.55
Asphalt 04/01/2010-04/30/2010	3.00	16.95	11.48	0.00	0.01	1.42	1.43	0.00	1.31	1.31
Paving Off-Gas	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	15.97	9.18	0.00	0.00	1.39	1.39	0.00	1.27	1.27
Paving On Road Diesel	0.05	0.84	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03
Paving Worker Trips	0.07	0.14	2.05	0.00	0.01	0.01	0.02	0.00	0.00	0.01
Fine Grading 04/01/2010-04/30/2010	4.21	33.76	18.77	0.00	21.97	1.80	23.76	4.59	1.65	6.24
Fine Grading Dust	0.00	0.00	0.00	0.00	21.96	0.00	21.96	4.59	0.00	4.59
Fine Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 5/3/2010-5/31/2010 Active Days: 21	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18

Time Slice 6/1/2010-9/30/2010 Active Days: 88	**76.22**	29.06	**65.31**	**0.06**	0.29	1.64	1.93	0.10	1.49	1.60
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 10/1/2010-12/30/2010 Active Days: 65	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5
Natural Gas	0.25	3.30	1.40	0.00	0.01	0.01
Hearth - No Summer Emissions						
Landscape	0.49	0.08	6.18	0.00	0.02	0.02
Consumer Products	21.38					
Architectural Coatings	2.93					
TOTALS (lbs/day, unmitigated)	25.05	3.38	7.58	0.00	0.03	0.03

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5
Natural Gas	0.25	3.30	1.40	0.00	0.01	0.01
Hearth - No Summer Emissions						
Landscape	0.49	0.08	6.18	0.00	0.02	0.02
Consumer Products	21.38					
Architectural Coatings	2.93					
TOTALS (lbs/day, mitigated)	25.05	3.38	7.58	0.00	0.03	0.03

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction

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Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 1.6%

Percentage of residences with wood fireplaces changed from 10% to 7.8%

Percentage of residences with natural gas fireplaces changed from 55% to 90.6%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25
Apartments low rise	14.77	22.03	167.28	0.15	30.88	5.96
Apartments mid rise	3.86	5.68	43.12	0.04	7.96	1.54
Apartments high rise	1.50	2.24	16.99	0.02	3.14	0.61
City park	0.12	0.12	0.85	0.00	0.16	0.03
TOTALS (lbs/day, unmitigated)	20.25	30.07	228.24	0.21	42.14	8.14

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25
Apartments low rise	13.84	20.43	155.13	0.14	28.63	5.53
Apartments mid rise	3.60	5.22	39.65	0.04	7.32	1.41
Apartments high rise	1.41	2.08	15.76	0.01	2.91	0.56
City park	0.11	0.11	0.82	0.00	0.16	0.03
TOTALS (lbs/day, mitigated)	18.96	27.84	211.36	0.19	39.02	7.53

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Residential Affordable Housing Mitigation

Percent Reduction in Trips is 1.12% (calculated as a % of 9.57 trips/day)

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Operational Mitigation Options Selected

Residential Mitigation Measures

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Percent of Housing Units that are Deed-Restricted Below Market Rate Housing is 27.9%

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Operational Settings:

Does not include correction for passby trips

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Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	21.00	6.65	dwelling units	315.00	2,094.75	17,909.48
Apartments mid rise	9.00	6.00	dwelling units	90.00	540.00	4,616.84
Apartments high rise	2.00	6.65	dwelling units	32.00	212.80	1,819.38
City park		1.59	acres	8.00	12.72	94.86
					2,860.27	24,440.56

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.3	0.9	98.7	0.4
Light Truck < 3750 lbs	12.4	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	62.1	37.9	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
City park				5.0	2.5	92.5

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 75 degrees F

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\URBEMISrun\NAS Alameda\NAS Alameda.urb924

Project Name: NAS Alameda Project

Project Location: Alameda County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2010 TOTALS (lbs/day unmitigated)	76.22	56.09	65.31	0.06	200.02	3.22	203.24	41.78	2.96	44.73
2010 TOTALS (lbs/day mitigated)	76.22	56.09	65.31	0.06	29.17	3.22	31.82	6.09	2.96	8.52

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	57.90	6.40	43.90	0.10	5.95	5.73
TOTALS (lbs/day, mitigated)	57.90	6.40	43.90	0.10	5.95	5.73
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	22.81	40.62	273.67	0.21	42.14	8.14
TOTALS (lbs/day, mitigated)	21.12	37.62	253.39	0.19	39.02	7.53
Percent Reduction	7.41	7.39	7.41	9.52	7.40	7.49

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5
TOTALS (lbs/day, unmitigated)	80.71	47.02	317.57	0.31	48.09	13.87
TOTALS (lbs/day, mitigated)	79.02	44.02	297.29	0.29	44.97	13.26
Percent Reduction	2.09	6.38	6.39	6.45	6.49	4.40

Construction Unmitigated Detail Report:

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CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 1/1/2010-3/31/2010 Active Days: 64	5.26	**56.09**	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Demolition 01/01/2010-03/31/2010	5.26	56.09	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Fugitive Dust	0.00	0.00	0.00	0.00	29.03	0.00	29.03	6.04	0.00	6.04
Demo Off Road Diesel	3.50	26.25	15.30	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Demo On Road Diesel	1.71	29.75	8.85	0.04	0.14	1.02	1.15	0.04	0.94	0.98
Demo Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 4/1/2010-4/30/2010 Active Days: 22	7.21	50.71	30.24	0.00	**200.02**	**3.22**	**203.24**	**41.78**	**2.96**	**44.73**
Asphalt 04/01/2010-04/30/2010	3.00	16.95	11.48	0.00	0.01	1.42	1.43	0.00	1.31	1.31
Paving Off-Gas	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	15.97	9.18	0.00	0.00	1.39	1.39	0.00	1.27	1.27
Paving On Road Diesel	0.05	0.84	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03
Paving Worker Trips	0.07	0.14	2.05	0.00	0.01	0.01	0.02	0.00	0.00	0.01
Fine Grading 04/01/2010-04/30/2010	4.21	33.76	18.77	0.00	200.01	1.80	201.80	41.77	1.65	43.42
Fine Grading Dust	0.00	0.00	0.00	0.00	200.00	0.00	200.00	41.77	0.00	41.77
Fine Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01

Time Slice 5/3/2010-5/31/2010 Active Days: 21	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Time Slice 6/1/2010-9/30/2010 Active Days: 88	**76.22**	29.06	**65.31**	**0.06**	0.29	1.64	1.93	0.10	1.49	1.60
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 10/1/2010-12/30/2010 Active Days: 65	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00

Phase Assumptions

Phase: Demolition 1/1/2010 - 3/31/2010 - Default Emission Factors

Building Volume Total (cubic feet): 3898368

Building Volume Daily (cubic feet): 69120

On Road Truck Travel (VMT): 960

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 40

Maximum Daily Acreage Disturbed: 10

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/1/2010 - 4/30/2010 - Default Paving Description

Acres to be Paved: 2

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 5/3/2010 - 9/30/2010 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

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1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 6/1/2010 - 12/30/2010 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 1/1/2010-3/31/2010 Active Days: 64	5.26	**56.09**	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Demolition 01/01/2010-03/31/2010	5.26	56.09	25.43	0.04	29.17	2.65	31.82	6.09	2.44	8.52
Fugitive Dust	0.00	0.00	0.00	0.00	29.03	0.00	29.03	6.04	0.00	6.04
Demo Off Road Diesel	3.50	26.25	15.30	0.00	0.00	1.62	1.62	0.00	1.49	1.49
Demo On Road Diesel	1.71	29.75	8.85	0.04	0.14	1.02	1.15	0.04	0.94	0.98
Demo Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01

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Time Slice 4/1/2010-4/30/2010 Active Days: 22	7.21	50.71	30.24	0.00	21.98	**3.22**	25.20	4.59	**2.96**	7.55
Asphalt 04/01/2010-04/30/2010	3.00	16.95	11.48	0.00	0.01	1.42	1.43	0.00	1.31	1.31
Paving Off-Gas	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.64	15.97	9.18	0.00	0.00	1.39	1.39	0.00	1.27	1.27
Paving On Road Diesel	0.05	0.84	0.25	0.00	0.00	0.03	0.03	0.00	0.03	0.03
Paving Worker Trips	0.07	0.14	2.05	0.00	0.01	0.01	0.02	0.00	0.00	0.01
Fine Grading 04/01/2010-04/30/2010	4.21	33.76	18.77	0.00	21.97	1.80	23.76	4.59	1.65	6.24
Fine Grading Dust	0.00	0.00	0.00	0.00	21.96	0.00	21.96	4.59	0.00	4.59
Fine Grading Off Road Diesel	4.16	33.67	17.48	0.00	0.00	1.79	1.79	0.00	1.65	1.65
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.05	0.09	1.28	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 5/3/2010-5/31/2010 Active Days: 21	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18

Time Slice 6/1/2010-9/30/2010 Active Days: 88	**76.22**	29.06	**65.31**	**0.06**	0.29	1.64	1.93	0.10	1.49	1.60
Building 05/03/2010-09/30/2010	5.98	29.00	64.47	0.06	0.29	1.64	1.93	0.10	1.49	1.59
Building Off Road Diesel	3.65	16.55	11.20	0.00	0.00	1.19	1.19	0.00	1.10	1.10
Building Vendor Trips	0.62	9.16	6.02	0.01	0.06	0.32	0.38	0.02	0.29	0.31
Building Worker Trips	1.71	3.29	47.26	0.04	0.23	0.12	0.35	0.08	0.10	0.18
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Time Slice 10/1/2010-12/30/2010 Active Days: 65	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Coating 06/01/2010-12/30/2010	70.24	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Architectural Coating	70.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	0.84	0.00	0.00	0.00	0.01	0.00	0.00	0.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5
Natural Gas	0.25	3.30	1.40	0.00	0.01	0.01
Hearth	33.34	3.10	42.50	0.10	5.94	5.72
Landscaping - No Winter Emissions						
Consumer Products	21.38					
Architectural Coatings	2.93					
TOTALS (lbs/day, unmitigated)	57.90	6.40	43.90	0.10	5.95	5.73

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5
Natural Gas	0.25	3.30	1.40	0.00	0.01	0.01
Hearth	33.34	3.10	42.50	0.10	5.94	5.72
Landscaping - No Winter Emissions						
Consumer Products	21.38					
Architectural Coatings	2.93					
TOTALS (lbs/day, mitigated)	57.90	6.40	43.90	0.10	5.95	5.73

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction

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Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 1.6%

Percentage of residences with wood fireplaces changed from 10% to 7.8%

Percentage of residences with natural gas fireplaces changed from 55% to 90.6%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25
Apartments low rise	16.71	29.77	200.55	0.15	30.88	5.96
Apartments mid rise	4.31	7.67	51.70	0.04	7.96	1.54
Apartments high rise	1.70	3.02	20.37	0.02	3.14	0.61
City park	0.09	0.16	1.05	0.00	0.16	0.03
TOTALS (lbs/day, unmitigated)	22.81	40.62	273.67	0.21	42.14	8.14

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25
Apartments low rise	15.50	27.61	185.97	0.14	28.63	5.53
Apartments mid rise	3.96	7.06	47.53	0.04	7.32	1.41
Apartments high rise	1.57	2.80	18.89	0.01	2.91	0.56
City park	0.09	0.15	1.00	0.00	0.16	0.03
TOTALS (lbs/day, mitigated)	21.12	37.62	253.39	0.19	39.02	7.53

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Residential Affordable Housing Mitigation

Percent Reduction in Trips is 1.12% (calculated as a % of 9.57 trips/day)

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Operational Mitigation Options Selected

Residential Mitigation Measures

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Percent of Housing Units that are Deed-Restricted Below Market Rate Housing is 27.9%

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Operational Settings:

Does not include correction for passby trips

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Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	21.00	6.65	dwelling units	315.00	2,094.75	17,909.48
Apartments mid rise	9.00	6.00	dwelling units	90.00	540.00	4,616.84
Apartments high rise	2.00	6.65	dwelling units	32.00	212.80	1,819.38
City park		1.59	acres	8.00	12.72	94.86
					2,860.27	24,440.56

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.3	0.9	98.7	0.4
Light Truck < 3750 lbs	12.4	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	62.1	37.9	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
City park				5.0	2.5	92.5

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 75 degrees F

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Work\Projects\Alameda PPV Housing\Urbemis\NAS Alameda.urb924

Project Name: NAS Alameda Project

Project Location: Alameda County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	5.95	3.94	4.72	0.00	3.15	0.21	3.36	0.66	0.19	0.85	665.01
2010 TOTALS (tons/year mitigated)	5.95	3.94	4.72	0.00	1.19	0.21	1.40	0.25	0.19	0.44	665.01
Percent Reduction	0.00	0.00	0.00	0.00	62.18	0.00	58.30	61.97	0.00	48.01	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	5.89	0.65	2.52	0.00	0.24	0.23	799.53
TOTALS (tons/year, mitigated)	5.89	0.65	2.52	0.00	0.24	0.23	799.53
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	3.85	6.13	44.42	0.04	7.68	1.49	3,985.74
TOTALS (tons/year, mitigated)	3.60	5.66	41.14	0.04	7.13	1.38	3,690.70
Percent Reduction	6.49	7.67	7.38	0.00	7.16	7.38	7.40

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	9.74	6.78	46.94	0.04	7.92	1.72	4,785.27

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TOTALS (tons/year, mitigated)	9.49	6.31	43.66	0.04	7.37	1.61	4,490.23
Percent Reduction	2.57	6.93	6.99	0.00	6.94	6.40	6.17

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	5.95	3.94	4.72	0.00	3.15	0.21	3.36	0.66	0.19	0.85	665.01
Demolition 01/01/2010-03/31/2010	0.17	1.79	0.81	0.00	0.93	0.08	1.02	0.19	0.08	0.27	200.39
Fugitive Dust	0.00	0.00	0.00	0.00	230.86	0.00	230.86	48.02	0.00	48.02	0.00
Demo Off Road Diesel	0.11	0.84	0.49	0.00	0.00	0.05	0.05	0.00	0.05	0.05	73.00
Demo On Road Diesel	0.05	0.95	0.28	0.00	0.00	0.03	0.04	0.00	0.03	0.03	123.68
Demo Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71
Asphalt 04/01/2010-04/30/2010	0.03	0.19	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	17.23
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.18	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	13.99
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04
Fine Grading 04/01/2010-04/30/2010	0.05	0.37	0.21	0.00	2.20	0.02	2.22	0.46	0.02	0.48	34.36
Fine Grading Dust	0.00	0.00	0.00	0.00	2.20	0.00	2.20	0.46	0.00	0.46	0.00
Fine Grading Off Road Diesel	0.05	0.37	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	33.08
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28
Building 05/03/2010-09/30/2010	0.33	1.58	3.51	0.00	0.02	0.09	0.10	0.01	0.08	0.09	407.22
Building Off Road Diesel	0.20	0.90	0.61	0.00	0.00	0.06	0.06	0.00	0.06	0.06	88.36
Building Vendor Trips	0.03	0.50	0.33	0.00	0.00	0.02	0.02	0.00	0.02	0.02	85.73
Building Worker Trips	0.09	0.18	2.58	0.00	0.01	0.01	0.02	0.00	0.01	0.01	233.13
Coating 06/01/2010-12/30/2010	5.37	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.82
Architectural Coating	5.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Coating Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.82

Phase Assumptions

Phase: Demolition 1/1/2010 - 3/31/2010 - Default Emission Factors

Building Volume Total (cubic feet): 3898368

Building Volume Daily (cubic feet): 69120

On Road Truck Travel (VMT): 960

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

Total Acres Disturbed: 40

Maximum Daily Acreage Disturbed: 10

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 4/1/2010 - 4/30/2010 - Default Paving Description

Acres to be Paved: 2

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 5/3/2010 - 9/30/2010 - Default Building Construction Description

Off-Road Equipment:

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1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 6/1/2010 - 12/30/2010 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	5.95	3.94	4.72	0.00	1.19	0.21	1.40	0.25	0.19	0.44	665.01
Demolition 01/01/2010-03/31/2010	0.17	1.79	0.81	0.00	0.93	0.08	1.02	0.19	0.08	0.27	200.39
Fugitive Dust	0.00	0.00	0.00	0.00	230.86	0.00	230.86	48.02	0.00	48.02	0.00
Demo Off Road Diesel	0.11	0.84	0.49	0.00	0.00	0.05	0.05	0.00	0.05	0.05	73.00
Demo On Road Diesel	0.05	0.95	0.28	0.00	0.00	0.03	0.04	0.00	0.03	0.03	123.68
Demo Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71
Asphalt 04/01/2010-04/30/2010	0.03	0.19	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	17.23
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.18	0.10	0.00	0.00	0.02	0.02	0.00	0.01	0.01	13.99
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04
Fine Grading 04/01/2010-04/30/2010	0.05	0.37	0.21	0.00	0.24	0.02	0.26	0.05	0.02	0.07	34.36
Fine Grading Dust	0.00	0.00	0.00	0.00	0.24	0.00	0.24	0.05	0.00	0.05	0.00
Fine Grading Off Road Diesel	0.05	0.37	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	33.08

Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28
Building 05/03/2010-09/30/2010	0.33	1.58	3.51	0.00	0.02	0.09	0.10	0.01	0.08	0.09	407.22
Building Off Road Diesel	0.20	0.90	0.61	0.00	0.00	0.06	0.06	0.00	0.06	0.06	88.36
Building Vendor Trips	0.03	0.50	0.33	0.00	0.00	0.02	0.02	0.00	0.02	0.02	85.73
Building Worker Trips	0.09	0.18	2.58	0.00	0.01	0.01	0.02	0.00	0.01	0.01	233.13
Coating 06/01/2010-12/30/2010	5.37	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.82
Architectural Coating	5.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.82

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 4/1/2010 - 4/30/2010 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.05	0.60	0.26	0.00	0.00	0.00	767.83
Hearth	1.36	0.04	1.70	0.00	0.24	0.23	30.69
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.01
Consumer Products	3.90						
Architectural Coatings	0.54						
TOTALS (tons/year, unmitigated)	5.89	0.65	2.52	0.00	0.24	0.23	799.53

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Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.05	0.60	0.26	0.00	0.00	0.00	767.83
Hearth	1.36	0.04	1.70	0.00	0.24	0.23	30.69
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.01
Consumer Products	3.90						
Architectural Coatings	0.54						
TOTALS (tons/year, mitigated)	5.89	0.65	2.52	0.00	0.24	0.23	799.53

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 1.6%

Percentage of residences with wood fireplaces changed from 10% to 7.8%

Percentage of residences with natural gas fireplaces changed from 55% to 90.6%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	2.81	4.49	32.55	0.03	5.63	1.09	2,920.78
Apartments mid rise	0.73	1.16	8.39	0.01	1.45	0.28	752.94
Apartments high rise	0.29	0.46	3.31	0.00	0.57	0.11	296.71
City park	0.02	0.02	0.17	0.00	0.03	0.01	15.31
TOTALS (tons/year, unmitigated)	3.85	6.13	44.42	0.04	7.68	1.49	3,985.74

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2

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Apartments low rise	2.63	4.16	30.19	0.03	5.23	1.01	2,708.54
Apartments mid rise	0.68	1.06	7.72	0.01	1.34	0.26	692.30
Apartments high rise	0.27	0.42	3.07	0.00	0.53	0.10	275.15
City park	0.02	0.02	0.16	0.00	0.03	0.01	14.71
TOTALS (tons/year, mitigated)	3.60	5.66	41.14	0.04	7.13	1.38	3,690.70

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Residential Affordable Housing Mitigation

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Percent Reduction in Trips is 1.12% (calculated as a % of 9.57 trips/day)

Note that the above percent is applied to a baseline of 9.57 and that product is

subtracted from the Unmitigated Trips

Inputs Selected:

The Percent of Housing Units that are Deed-Restricted Below Market Rate Housing is 27.9%

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 3.93%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 210

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 13

The Number of Dedicated Daily Shuttle Trips is 0

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT

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Apartments low rise	21.00	6.65	dwelling units	315.00	2,094.75	17,909.48
Apartments mid rise	9.00	6.00	dwelling units	90.00	540.00	4,616.84
Apartments high rise	2.00	6.65	dwelling units	32.00	212.80	1,819.38
City park		1.59	acres	8.00	12.72	94.86
					2,860.27	24,440.56

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.3	0.9	98.7	0.4
Light Truck < 3750 lbs	12.4	1.6	96.0	2.4
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	62.1	37.9	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

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% of Trips - Commercial (by land use)

City park	5.0	2.5	92.5

Operational Changes to Defaults

Ambient summer temperature changed from 85 degrees F to 75 degrees F

Appendix A Alameda PPV Housing Alternative A GHG Emissions

Air Quality Modeling Output	CO2 Estimates		Conversion Factors		Total CO2 Emissions	
Construction Emissions (Source: URBEMIS)						
Season						
2010	665.01	tons/year	0.907	MT/ton	603	MT/yr
Total Construction-Generated Emissions					**603**	MT
Area-Source Emissions (Source: URBEMIS)						
Operational Year 2010	799.53	tons/year	0.907	MT/ton	725	MT/yr
Mobile-Source Emissions (Source: URBEMIS)						
Operational Year 2010	3,690.70	lb/day	0.907	MT/ton	3,348	MT/yr
Total Direct Operational Emissions					**4,073**	MT/yr

Indirect Emissions from Energy Consumption [1,2]

KWh/du/year	# du	KWh/ksf/year	# ksf Commercial	Total KWh	MWh	Region	Emission Factor (lb CO2/MWh)	GWP	Emission Factor (lb CH4/MWh)	GWP	Emission Factor (lb N2O/MWh)	GWP	Total CO2e (Metric Tons/year)
7000	437	16,000	0	3,059,000	3,059	CALI	804.54	1	0.0067	21	0.0037	310	**1,118**

Indirect Emissions from Municipal Water Use (includes conveyance, treatment, distribution, and wastewater treatment) [3]

KWh/million gallons/year*	KWh/acre-ft/year	Million Gallons/Year	Total KWh	MWh	Region	Emission Factor (lb CO2/MWh)	GWP	Emission Factor (lb CH4/MWh)	GWP	Emission Factor (lb N2O/MWh)	GWP	Total CO2e (Metric Tons/year)
12,700	4138	15	195,834	196	CALI	804.54	1	0.0067	23	0.0037	296	**72**

*for Southern California

Total Indirect Emissions (MT CO2e/yr)	**1,190**
Total Direct & Indirect Emissions (MT CO2e/yr)	**5,263**

Assumptions:

3.069 acre-ft = 1 Million gallon

0.135 acre-ft/yr

Sources:

1 California Energy Commission [CEC] 2009. California Commercial End Use Survey. Available: http://capabilities.itron.com/CeusWeb/Chart.aspx; California Energy Commission [CEC] 2000. California Energy Demand Staff Report P200-00-002

2 California Climate Action Registry [CCAR] General Reporting Protocol v 3.1 January 2009

3 California Energy Commission [CEC] 2006. California Energy - Water Relationship Staff Report CEC-700-2005-011-SF. Available: http://www.energy.ca.gov/2007publications/CEC-999-2007-008/CEC-999-2007-008.PDF

APPENDIX C

RECORD OF NON-APPLICABILITY FOR CLEAN AIR ACT CONFORMITY

NAVY RECORD OF NON-APPLICABILITY
FOR CLEAN AIR ACT CONFORMITY

The Preferred Alternative falls under the Record of Non-Applicability (RONA) category and is documented with this RONA.

Preferred Alternative.

Action Proponent: Department of the Navy, Naval Facilities Engineering Command Southwest

Location: Naval Air Station Alameda, Alameda, California

Preferred Alternative Name: The Disposal and Reuse of the Naval Air Station Alameda (NAS Alameda) North Housing Parcel

Preferred Alternative and Emissions Summary:

Preferred Alternative Summary: The Preferred Alternative includes the disposal and reuse of the North Housing Parcel (approximately 42 acres [15 hectares]) at NAS Alameda. The proposed reuse of the site will adhere to the amended Community Reuse Plan adopted by the City of Alameda on March 4, 2009. The proposed reuse of the site would include developing approximately 90 housing units of permanent, service-enriched affordable rental housing, 32 Public Benefits Conveyance (PBC) housing units, and 315 medium density residential units. The proposed reuse would also include developing a public park on approximately 8 acres (3 hectares) of existing open space.

Emissions Summary: Table 1 presents a summary of the estimated annual construction and operational air pollutant emissions associated with the Preferred Alternative, as well as applicable federal general conformity *de minimis* levels and the San Francisco Bay Area emission budgets.

Table 1
Summary of Estimated Annual Air Pollutant Emissions

Item	Estimated Annual Air Pollutant Emissions tons/year (tonnes/year)				
	VOC	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$**
Total Annual Construction Emissions	5.95 (5.40)	3.94 (3.57)	4.72 (4.28(	<0.01 (<0.01)	0.44 (0.40)
Total Annual Operational Emissions	9.49 (8.61)	6.31 (5.72)	43.66 (39.60)	0.04 (0.04)	1.61 (1.46)
General Conformity de minimis Levels	**100 (91)**	**100 (91)**	**100 (91)**	**100 (91)**	**100 (91)**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**
Bay Area Emission Budgets	**110,532 (100,253)**	**127,368 (115,523)**	**498,858 (452,464)**	**22,692 (20,582)**	**30,744 (27,885)**
Exceeds 10% of the Area Emission Budget?	**No**	**No**	**No**	**No**	**No**

As shown in Table 1, the air pollutant emissions were estimated to be below the thresholds and would be less than 10 percent of the Bay Area emission budgets. The Preferred Alternative would not result in adverse air quality impacts during the construction and operational phases.

Affected Air Basin(s): San Francisco Bay Area Air Basin (Bay Area)

Date RONA prepared: 12 March 2009

RONA prepared by: Pan Environmental, Inc.

Preferred Alternative Exemption(s).

Pursuant to the General Conformity Rule 40 C.F.R. Part 93.153 and the Chief of Navy Operations Clean Air Act General Conformity Guidance, the Department of the Navy has determined that the actions to dispose of and reuse the NAS Alameda North Housing Parcel are exempt from the requirement for a conformity determination. This finding is based on the following exemptions as stated in 40 C.F.R. Part 93.153:

> "(xi) The granting of leases, licenses such as for exports and trade, permits, and easements where activities conducted will be similar in scope and operation to activities currently being conducted.
>
> (xiv) Transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of the transfer.

(xix) Actions (or portions thereof) associated with transfers of land, facilities, title, and real properties through an enforceable contract or lease agreement where the delivery of the deed is required to occur promptly after a specific, reasonable condition is met, such as promptly after the land is certified as meeting the requirements of CERCLA, and where the federal agency does not retain continuing authority to control emissions associated with the lands, facilities, title, or real properties.

(xx) Transfers of real property, including land, facilities, and related personal property from a Federal entity to another Federal entity and assignments of real property, including land, facilities, and related personal property from a Federal entity to another Federal entity for subsequent deeding to eligible applicants."

Attainment Area Status and Emissions Evaluation Conclusion.

The Preferred Alternative is located within the San Francisco Bay Area. The San Francisco Bay Area is designated by the USEPA as a marginal nonattainment area for 8-hour O_3 standard, nonattainment for $PM_{2.5}$ to be effective in April 2009, and a maintenance area for CO. Emissions of these air pollutants and the precursors were estimated using the URBEMIS2007 model.

As shown in Table 1, emissions of the subject air pollutants were estimated to be below the applicable federal *de minimis* levels and would be less than 10 percent of the Bay Area emission budgets. The Preferred Alternative would not result in adverse air quality impacts during the construction and operational phases. As stated above, the actions to dispose of and reuse the NAS Alameda North Housing Parcel are exempt from the requirement for a conformity determination as stated in 40 C.F.R. Part 93.153. Therefore, further formal conformity determination procedures are not required, resulting in this RONA.

RONA Approval:

12/8/09
Date

Laura Duchnak
Laura Duchnak, Director
BRAC PMO West

APPENDIX D

MITIGATED NEGATIVE DECLARATION FOR THE TINKER (WILLIE STARGELL) AVENUE EXTENSION PROJECT

CITY OF ALAMEDA RESOLUTION NO. 13455

ADOPTING A MITIGATED NEGATIVE DECLARATION, IS-01-01, FOR GENERAL PLAN AMENDMENT, GPA-01-02

WHEREAS, the City is proposing a new roadway, Tinker Avenue, to provide access to the western part of Alameda; and

WHEREAS, the City is proposing to add Tinker Avenue as a Major Street from Main Street to Webster Street to Figure 4-1, *Street and Transit System,* of the General Plan; and

WHEREAS, the proposed roadway is designated along an alignment with Medium Density Residential, Public/Institutional/School and Parks and Public Open Space on the General Plan Land Use Diagram; and

WHEREAS, the proposed roadway is located adjacent to MX, Mixed Use Planned Development, M-2-PD, General Industrial (Manufacturing), R-4, Neighborhood Residential, and O, Open Space, Zoning Districts; and

WHEREAS, the proposed roadway is located within the boundaries of the Alameda Point Improvement Project; and

WHEREAS, the proposed roadway is consistent with the Redevelopment Land Use Map; and

WHEREAS, a proposed Mitigated Negative Declaration and Initial Study was circulated for public comment between June 2, 2001 to July 5, 2001 and written comments were received, as follows:

1) U.S. Coast Guard, June 7, 2001

2) U.S. Army Corps of Engineers, June 20, 2001

3) Peralta Community College District, June 27, 2001

4) California Department of Transportation, July 2, 2001

5) East Bay Municipal Utility District, July 2, 2001

6) State Clearinghouse, July 5, 2001

7) U.S. Coast Guard, August 16, 2001

CITY ATTORNEY

WHEREAS, staff has provided a written response to each letter of comment, attached to the City Council Staff Report which is incorporated here by reference, and found that the comments did not identify new significant impacts associated with this project, did not identify new mitigation measures and the comments did not challenge the adequacy of the proposed mitigation measures; and

WHEREAS, the Planning Board held a public hearing on the proposed Mitigated Negative Declaration and Initial Study on August 27, 2001, and heard public testimony, and the testimony at the public hearing did not identify new mitigation measures nor challenge the adequacy of the proposed mitigation measures; and

WHEREAS, the Planning Board recommended that the City Council strongly consider that the existing housing on the north side of the Tinker Avenue Extension enjoy the same reduced interior noise level as the other structures in town as provided for in the General Plan; and

WHEREAS, the Planning Board encouraged mitigations including, but not limited to, glazing, mechanical ventilation, additional vegetation, and reduced construction hours, soft road surfaces, and as a last resort, sound walls. The Board strongly suggested that many of the mitigations be put in place prior to the opening of Tinker Avenue; and

WHEREAS, the Planning Board examined pertinent maps, drawings, and documents, and recommended that the City Council adopt the Mitigated Negative Declaration; and

WHEREAS, the City Council held a public hearing on the proposed Mitigated Negative Declaration on May 21, 2002 and examined pertinent maps, drawings, and documents; and

WHEREAS, the City Council made the following findings:

1. The project as mitigated does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history, because the site has existed as part of the U.S. Navy's Fleet Industrial Supply Center, an industrial site, for over fifty years; and there is no identified historic or prehistoric structure or substructure condition which would be disturbed by the proposed project. Areas identified as wetland in the vicinity of Main Street will be subject to mitigation measures to reduce the project-related impacts on such areas to a less than significant level.

2. The project as mitigated does not have impacts that are individually limited, but cumulatively considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects, because the project will incorporate mitigation measures to avoid any significant adverse impacts on the environment in the context of continued growth and development in Alameda.

3. The project as mitigated would not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly, because implementation of the mitigation measures identified would reduce project-related effects on those who would be living or attending school in adjacent areas to a level of less than significant. As a major road intended to serve future development, Tinker Avenue has been designed to be compatible with existing and proposed land uses in the surrounding areas; and

WHEREAS, the City Council adopts additional language to enhance Mitigation Measure 11, described in Attachment "A; and

WHEREAS, the City Council has made findings, described in Attachment "B", that all significant and potentially significant environmental impacts of the project can be reduced to a level of insignificance; and

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Alameda hereby adopts Mitigated Negative Declaration, IS-01-01, and a Mitigation Monitoring Program described in Attachment "C"; and

BE IT FURTHER RESOLVED that the City Council of the City of Alameda hereby adopts the Revision to the Mitigated Negative Declaration, IS-01-01, described in Attachment "D", which does not constitute a "substantial revision" as defined in the California Environmental Quality Act Guidelines Section 15073.5.

NOTICE. No judicial proceedings subject to review pursuant to California Code of Civil Procedure Section 1094.5 may be prosecuted more than ninety (90) days following the date of this decision or any final action on any appeal, plus extensions authorized by California Code of Civil Procedure Section 1094.6.

* * * * *

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ATTACHMENT A
AMENDMENT TO MITIGATION MEASURE 11

MITIGATION MEASURE 11: Traffic Noise Attenuation. The following noise attenuation measures should be required to reduce noise levels at existing or planned adjacent uses:

Tinker Avenue Segment - Main Street to Fifth Street

- Prior to the roadway's operation, measures which reduce the operational noise of Tinker Avenue should be provided, such as additional vegetation adjacent to Tinker Avenue from the western property line of the U.S. Coast Guard housing complex to the easternmost residence, and the use of soft road surfaces like rubberized asphalt, to meet either the 60- or 65-dBA standard for usable outdoor space. As a last resort, a noise wall should be provided on the north side of Tinker Avenue from the western property line of the U.S. Coast Guard housing complex to the easternmost residence of that housing development. If necessary, the noise wall should be of a height sufficient to interrupt the noise propagation path (approximately six feet, depending on location of the wall relative to final elevation differences between source and receiver) and to meet either the 60- or 65-dBA standard for usable outdoor space.

- Prior to the roadway's operation, glazing which reduces interior noise to 45 dBA (CNEL or Ldn) and supplemental mechanical ventilation should be provided in the upstairs rooms of U.S. Coast Guard residences located adjacent to the proposed Tinker Avenue and with upstairs windows facing the street. Provision of supplemental ventilation would allow for window closure. Of the 30 units located immediately adjacent to the proposed Tinker Avenue alignment, nine of these units have no windows on the southern facade (facing the roadway) and no mitigation would be required in these units. Four units have windows facing Tinker Avenue, but they are located on the first floor only where the recommended noise wall would provide sufficient noise protection. However, there are 17 units with at least one upstairs window facing Tinker Avenue and mechanical ventilation would need to be provided in these units if the affected rooms have no other means of ventilation when the windows are closed. If the affected rooms have windows on other sides (not directly facing Tinker Avenue), mechanical ventilation could consist of a room fan. Otherwise, mechanical ventilation would involve a suitable ventilation system.

- Planned residential and school uses with frontage along the proposed Tinker Avenue shall comply with the 60-dBA (CNEL) City Land Use Compatibility Standard for residential and school uses. If they would be exposed to higher noise levels (due to smaller setbacks), noise attenuation measures will need to be incorporated into their design to ensure that City standards are met.

Tinker Avenue Segment - Fifth to Mariner Square Loop

- Planned office/R&D uses with frontage along the proposed Tinker Avenue should be set back sufficiently to meet the 65-dBA (CNEL) City Land Use Compatibility Standard for

ATTACHMENT B
FINDINGS DEMONSTRATING THAT ALL SIGNIFICANT IMPACTS
CAN BE MITIGATED TO A LEVEL OF INSIGNIFICANCE

The following sets forth all significant effects of the project, all of which can be reduced to a level of insignificance, and less than significant impacts for which mitigation is recommended.

1. Aesthetics The portion of the Tinker Avenue alignment that borders the College of Alameda athletic fields is lined by mature ornamental pine and eucalyptus trees. Current roadway improvement plans call for these trees to be removed, which would have a ***significant*** adverse impact on the visual character of the area.

   Finding. The City Council hereby makes the following finding: Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen the significant environmental effect as identified in the Mitigated Negative Declaration/Initial Study.

   Facts in Support of Finding. The following mitigation measure indicates that the identified impact will be reduced to a level of insignificance.

   Mitigation Measure 1: Along the College of Alameda boundary, 24-gallon trees of a type similar to those to be removed may be planted as replacements on College property instead of within the roadway alignment. The landscaping plan will be designed to reduce the impact associated with the removal of the existing trees along the Tinker Avenue alignment to a less than significant level.

   The implementation of this Mitigation Measure would reduce the impact from construction of the project to a ***less than significant*** level.

2. Aesthetics Construction of the proposed roadway would include the installation of street lighting, which could generate light and glare visible from the existing USCG housing area and from future residential units which are anticipated under the approved Catellus Project. This is viewed as a ***significant*** impact associated with the Tinker Avenue Extension Project.

   Finding. The City Council hereby makes the followings finding: Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen the significant environmental effect as identified in the Mitigated Negative Declaration/Initial Study.

   Facts in Support of Finding. The following mitigation measure indicates that the identified impact will be reduced to a level of insignificance.

breaks at windward side(s) of construction areas
Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour

The implementation of this Mitigation Measure would reduce the impact from construction of the project to a ***less than significant*** level.

4. Biological Resources The loss of possible nests in active use would be a ***potentially significant*** impact.

Finding. The City Council hereby makes the following finding: Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen the significant environmental effect as identified in the Mitigated Negative Declaration/Initial Study.

Facts in Support of Finding. The following mitigation measure indicates that the identified impact will be reduced to a level of insignificance.

Mitigation Measure 4: The Tinker Avenue alignment and adjacent areas should be surveyed for nests by a qualified biologist 60 days prior to construction. If nesting raptors are observed, these locations should be avoided, and no construction completed within 100 feet of these locations until the nesting cycle is complete. Alternatively, the City of Alameda may develop a mitigation program with the approval of the CDFG.

The implementation of this Mitigation Measure would reduce the impact from construction of the project to a ***less than significant*** level.

5. Biological Resources The two small ditch segments within the Tinker Avenue alignment and the tip of the new wetland being developed as part of the Main Street Improvement Project total less than 500 square feet. Most wetland impacts are considered significant under the Resource Agency CEQA guidelines. In addition, Regional Water Quality Control Board and California Department of Fish and Game staff perceive most wetland loss to be ***significant.***

Finding. The City Council hereby makes the following finding: Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen the significant environmental effect as identified in the Mitigated Negative Declaration/Initial Study.

Facts in Support of Finding. The following mitigation measure indicates that the identified impact will be reduced to a level of insignificance.

The implementation of this Mitigation Measure would reduce the impact from construction of the project to a ***less than significant*** level.

7. Hazards and Hazardous Materials In the course of ground clearance and construction, the Tinker Avenue Extension Project will involve potential contact between construction workers and residual hazardous materials, which would be a ***potentially significant*** impact, if effective safety precautions are not followed. Substantial emissions of windblown dust or sediment-laden stormwater runoff from the soils within the Tinker Avenue alignment would also be a ***potentially significant*** impact on the environment in the absence of commonly accepted and available means of avoiding such releases into the environment.

Finding. The City Council hereby makes the following finding: Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen the significant environmental effect as identified in the Mitigated Negative Declaration/Initial Study.

Facts in Support of Finding. The following mitigation measure indicate that the identified impact will be reduced to a level of insignificance.

Mitigation Measure 7: All construction activity associated with the Tinker Avenue Extension Project will be required to comply with the provisions of the Site Management Plan (SMP) developed for the Catellus project. The SMP will require Risk Communication, implementation of site-specific Health and Safety Plans (HSP), and Health and Safety Training and Certification. Measures which may be identified in a site-specific HSP for preventing worker exposure to hazardous materials include use of personal protective equipment (disposable coveralls, nitrile rubber gloves, rubber boots and [as needed], face and eye protection, collective referred to as PPE), personal decontamination, establishment of work zones, and documented daily tailgate safety meetings.

The implementation of this Mitigation Measure would reduce the impact from construction of the project to a ***less than significant*** level.

8. Hazards and Hazardous Materials Installation of utilities and the construction of roadway improvements could expose construction workers to contaminated groundwater, posing a ***potentially significant*** impact.

Finding. The City Council hereby makes the following finding: Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen

thick layer of clean imported fill shall be provided, and all existing fill material shall be covered in a manner to prevent human exposure from casual contact with landscaping or other surfaces.

- *Off-site disposal of excavated materials*. In the event that off-site disposal of excavated fill materials is required due to geotechnical or other construction considerations, the material should be tested to determine appropriate means of disposal.
- *Surface water runoff controls*. Runoff to the storm drain system shall meet water quality criteria set by the SFRWQCB. If water discharged to the storm drain system could exceed 3 mg/liter, a NPDES permit could be required, or a NPDES waiver, if greater than 0.5 mg/liter. Water from saw cutting activities shall be vacuumed and disposed of appropriately.
- *Dewatering*. Groundwater generated from dewatering activities should be handled in the same manner as other site runoff.
- *Equipment Decontamination*. Trucks and large equipment should be washed down before leaving the construction site to avoid inadvertent, cumulative off-site transport of affected soil. Wash-down water should be handled in the same manner as other site runoff.

The implementation of this Mitigation Measure would reduce the impact from construction of the project to a ***less than significant*** level.

10. Noise The project's construction-related noise impacts would be a ***temporary significant*** impact.

Finding. The City Council hereby makes the following finding: Changes or alterations have been required in, or incorporated into the project which avoid or substantially lessen the significant environmental effect as identified in the Mitigated Negative Declaration/Initial Study.

Facts in Support of Finding. The following mitigation measure indicates that the identified impact will be reduced to a level of insignificance.

Mitigation Measure 10:

- Construction will comply with Alameda Noise Ordinance hourly limits, which prohibits construction

the significant environmental effect as identified in the Mitigated Negative Declaration/Initial Study.

Facts in Support of Finding. The following mitigation measure indicate that the identified impact will be reduced to a level of insignificance.

Mitigation Measure 11:

Prior to the roadway's operation, measures which reduce the operational noise of Tinker Avenue should be provided, such as additional vegetation adjacent to Tinker Avenue from the western property line of the U.S. Coast Guard housing complex to the easternmost residence, and the use of soft road surfaces like rubberized asphalt, to meet either the 60- or 65-dBA standard for usable outdoor space. As a last resort, a noise wall should be provided on the north side of Tinker Avenue from the western property line of the U.S. Coast Guard housing complex to the easternmost residence of that housing development. If necessary, the noise wall should be of a height sufficient to interrupt the noise propagation path (approximately six feet, depending on location of the wall relative to final elevation differences between source and receiver) and to meet either the 60- or 65-dBA standard for usable outdoor space.

Prior to the roadway's operation, glazing which reduces interior noise to 45 dBA (CNEL or Ldn) and supplemental mechanical ventilation should be provided in the upstairs rooms of U.S. Coast Guard residences located adjacent to the proposed Tinker Avenue and with upstairs windows facing the street.

Planned residential and school uses with frontage along the proposed Tinker Avenue shall comply with the 60-dBA (CNEL) City Land Use Compatibility Standard for residential and school uses. If they would be exposed to higher noise levels (due to smaller setbacks), noise attenuation measures will need to be incorporated into their design to ensure that City standards are met.

Planned office/R&D uses with frontage along the proposed Tinker Avenue should be set back sufficiently to meet the 65-dBA (CNEL) City Land Use Compatibility Standard for office and commercial uses. If they would be exposed to higher noise levels

ATTACHMENT C - TINKER AVENUE EXTENSION PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measure	Party Responsible for Funding	Party Responsible for Implementation	Timing of Implementation	Reporting or Monitoring Method and Timing
I. AESTHETICS				
1. **Implementation of Landscaping Plan.** The Tinker Avenue Extension Project's landscaping plan calls for the planting of trees on both sides of Tinker Avenue, as well as on the arterial's median. Along the College of Alameda boundary, 24-gallon trees of a type similar to those to be removed may be planted as replacements on College property instead of within the roadway alignment. The landscaping plan will be designed to reduce the impact associated with the removal of the existing trees along the Tinker Avenue alignment to a less than significant level. This level of significance will be achieved after an extended period of time, when the landscaping has matured.	City[1]	City	Development Plan review and approval	City Planning Staff to ensure replacement trees are included in Development Plan; Prior to opening the road to traffic, City Planning Staff shall inspect the project site along the College of Alameda boundary to ensure that 24-gallon trees have been planted on the College property.
2. **Lighting Review.** Design for the roadway shall include consideration of potential light and glare impacts. The City of Alameda, in the conditions of approval of the Development Plan, shall require shielding, design revisions or other measures to reduce adverse lighting impacts to the extent feasible.	City	City	Development Plan review and approval	Development Plan shall contain conditions of approval to reduce adverse lighting impacts; Prior to opening road to traffic, City Planning Staff shall inspect road lighting to ensure compliance.
III. AIR QUALITY				
3. **Dust Control Measures.** The City of Alameda shall include in the project construction specifications the following requirements: • Water all active construction areas at least twice daily • Cover all trucks hauling soil, sand, debris and other loose materials, or require all trucks to provide at least two feet of freeboard (space below its undercarriage) • Pave, apply water three times daily, or apply appropriate, non-toxic soil stabilizers on all unpaved areas, parking areas and staging areas • Use water sweepers daily if visible soil material appears on adjacent streets • Hydro seed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more)	City	City	Development Plan review and approval; construction	City Planning and Public Works Staff to ensure specifications are included in the conditions of approval of the Development Plan; City Public Works Staff to periodically inspect site during construction to ensure specifications are being followed.

[1] City refers to either the City of Alameda or the Community Improvement Commission.

Mitigation Measure	Party Responsible for Funding	Party Responsible for Implementation	Timing of Implementation	Reporting or Monitoring Method and Timing
• Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.) • Limit traffic speeds on unpaved roads to 15 miles per hour • Install sandbags or other erosion control measures to prevent silt runoff to public roadways • Replant vegetation in disturbed areas as quickly as possible				
In addition, the City of Alameda should consider the inclusion of the following control measures within the construction dust mitigation plan, in order to reduce dust-related impacts to those living and/or attending school in the vicinity of the Tinker Avenue alignment (strongly encouraged by BAAQMD): • Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the construction site • Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas • Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour	City	City	Development Plan review and approval; construction	Development Plan conditions of approval shall contain BAAQMD recommended dust control measures; City Public Works Staff to periodically inspect construction site to ensure compliance with conditions of approval.
IV. BIOLOGICAL RESOURCES				
4. **Pre-construction Surveys for Raptor Nests**. Although the likelihood of raptor nests being present is low, the Tinker Avenue alignment and adjacent areas should be surveyed for nests by a qualified biologist 60 days prior to construction. If nesting raptors are observed, these locations should be avoided, and no construction completed within 100 feet of these locations until the nesting cycle is complete. Alternatively, the City of Alameda may develop a mitigation program with the approval of the CDFG.	City	City	60 days prior to construction; construction	As condition of Development Plan approval, City shall require documentation of qualified biologist regarding presence of raptor nests before construction commences. If raptor nests are present, City Public Works Staff shall either develop a mitigation program to be approved by the CDFG or shall inspect the construction site to ensure that no construction activity is occurring within 100 feet of active nest locations.

Mitigation Measure	Party Responsible for Funding	Party Responsible for Implementation	Timing of Implementation	Reporting or Monitoring Method and Timing
5. **Wetland Mitigation Program**. A mitigation program consistent with the Main Street Improvement Project (that is, the provision of adjacent wetlands) would be the most appropriate approach toward mitigating the project-related fill of approximately 500 square feet of wetlands identified within the Tinker Avenue alignment. The Main Street mitigation was reviewed and approved by the USACOE as a condition of authorization for the Main Street Improvement Project under nationwide permits 14 and 7, both pursuant to Section 404 of the Clean Water Act. The Main Street mitigation was further reviewed by the CDFG, with issuance of a Lake and Streambed Alteration Permit under Section 1601 of the CDFG code.	City	City	Development Plan review and approval; construction	City Planning and Public Works Staff to ensure provision of wetland replacement as part of Development Plan review and approval; City Public Works Staff to ensure replacement wetland constructed as part of acceptance of work.
VI. GEOLOGY AND SOILS				
6. **Employment of Latest Roadway Construction Standards**. The Tinker Avenue alignment shall be cleared prior to construction, including the removal of existing asphalt, rubble debris, vegetation and any loose, wet or otherwise unstable soils. Any oversized material exceeding six inches encountered during excavation which can not be crushed for use as road base shall not be utilized in the fill, but shall be properly disposed of off-site. Project specifications shall include appropriate design and construction methods to assure stable subgrade.	City	City	Development Plan review and approval; construction	City Public Works and Building Services Staff to ensure project specifications include proper clearing and disposal; City Public Works Staff to conduct periodic site inspection to ensure compliance.
Construction considerations include the proposed cuts along the Tinker Avenue alignment to lower the finished grade approximately two feet below the existing grade while remaining above the flood plain. Ninyo and Moore state that soft-pumping subgrade may be encountered in the existing paved areas, and that extra drying and compactive effort may be required to achieve stable subgrade. Additionally, overexcavation of the subsoil or the use of a stabilization fabric or geotextile layer may be required in order to filter moisture away from the pavement structural section as much as possible. Other measures used to compensate for expansive soils include lime treatment of the upper 12 to 18 inches of wet, clayey soils. The appropriate treatment shall be evaluated during the design phase of the Project by the geotechnical consultant.	City	City	Project design	City Public Works and Building Services Staff shall review the report and ensure that recommendations of the geotechnical consultant are included in project specifications prior to issuance of construction permits.

Mitigation Measure	Party Responsible for Funding	Party Responsible for Implementation	Timing of Implementation	Reporting or Monitoring Method and Timing
VII. HAZARDS AND HAZARDOUS MATERIALS				
7. **Environmental Health and Safety Guidelines for Construction Workers.** Guidelines for the protection of construction workers typically emphasize preventing the exposure of the worker's skin to contaminated soils. All construction activity associated with the Tinker Avenue Extension Project will be required to comply with the provisions of the Site Management Plan (SMP) developed for the Catellus project. The SMP will require Risk Communication, implementation of site-specific Health and Safety Plans (HSP), and Health and Safety Training and Certification. Measures which may be identified in a site-specific HSP for preventing worker exposure to hazardous materials include use of personal protective equipment (disposable coveralls, nitrile rubber gloves, rubber boots and [as needed], face and eye protection, collective referred to as PPE), personal decontamination, establishment of work zones, and documented daily tailgate safety meetings. The overall Health and Safety requirements for the site will be established by the SMP, to be approved by the appropriate agencies.	Catellus	Catellus	SMP to be developed by Catellus as part of Master Demolition Infrastructure and Phasing Plan	City Development Services, Building Services and Public Works Staff to ensure that SMP has been approved by appropriate agencies and that requirements of the SMP are part of the project specifications prior issuance of construction permits.
8. **Dewatering Activities Performed at Site.** Due to contaminated soil conditions along the Tinker Avenue alignment and the proximity of groundwater in this area, Ninyo and Moore anticipates the need to draw groundwater down four feet or more to allow placement of utility pipes. Disposal of groundwater should be performed in accordance with the guidelines of the RWQCB. Since encountering contaminated soil and groundwater within the proposed construction area is likely, contract specifications should include a line item for treatment, loading, transportation and disposal of contaminated soil and groundwater generated during the construction of the roadway improvements.	City	City	Development Plan review and approval; construction	City Public Works Staff to ensure specifications in the Development Plan include treatment, loading, transportation, and disposal of contaminated soil and groundwater; City Public Works Staff shall periodically inspect site to ensure compliance with project specifications.

Mitigation Measure	Party Responsible for Funding	Party Responsible for Implementation	Timing of Implementation	Reporting or Monitoring Method and Timing
VIII. HYDROLOGY AND WATER QUALITY				
9. **Soil and Surface Water Management Plan.** As part of the SMP, which must be approved by the appropriate agencies, specific procedures for managing and handling exposed soil during construction are required. The site-specific Soil and Surface Water Management Plan shall include the following elements: • *Dust Control.* Measures could include water spraying or application of dust suppressants, and gravel covering of high-traffic areas (see Mitigation 3). • *Temporary storage of excavated soil material.* Fill and other materials excavated during utility trenching, surface clearing and preparation should be stockpiled and appropriately covered to prevent runoff or discharge of affected soil, water or dust. Depending on weather conditions, containment structures or devices may be required. • *Guidelines for re-use of excavated fill materials.* Re-used materials should be fully covered with paving or landscaping. Where re-used fill materials are covered with landscaping, a one-foot minimum thick layer of clean imported fill shall be provided, and all existing fill material shall be covered in a manner to prevent human exposure from casual contact with landscaping or other surfaces. • *Off-site disposal of excavated materials.* In the event that off-site disposal of excavated fill materials is required due to geotechnical or other construction considerations, the material should be tested to determine appropriate means of disposal. • *Surface water runoff controls.* Runoff to the storm drain system shall meet water quality criteria set by the SFRWQCB. If water discharged to the storm drain system could exceed 3 mg/liter, a NPDES permit could be required, or a NPDES waiver, if greater than 0.5 mg/liter. Water from saw cutting activities shall be vacuumed and disposed of appropriately. • *Dewatering.* Groundwater generated from dewatering activities should be handled in the same manner as other site runoff. • *Equipment Decontamination.* Trucks and large equipment should be washed down before leaving the construction site to avoid	Catellus	Catellus	SMP to be developed by Catellus as part of Master Demolition Infrastructure and Phasing Plan.	City Development Services, Building Services and Public Works Staff to ensure that SMP has been approved by appropriate agencies and that requirements of the SMP are part of the project specifications prior issuance of construction permits; City Public Works Staff to periodically check site to ensure that elements of the Soil and Surface Water Management Plan are being instituted.

Mitigation Measure	Party Responsible for Funding	Party Responsible for Implementation	Timing of Implementation	Reporting or Monitoring Method and Timing
inadvertent, cumulative off-site transport of affected soil. Wash-down water should be handled in the same manner as other site runoff.				
XI. NOISE				
10. **Construction Noise Control Techniques.** The Project construction contractor shall be required to implement noise control techniques to minimize disturbance to adjacent noise receptors during project construction. Specific noise control measures shall include the following: • Construction will comply with Alameda Noise Ordinance hourly limits, which prohibits construction during nighttime hours. • Construction activities should be prohibited on weekends along road segments located adjacent to U.S. Coast Guard residences. • Equipment and trucks used for Project construction should utilize the best available noise control techniques (improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) in order to minimize construction noise impacts. Construction equipment should not generate noise levels above 75 to 80 dBA at 50 feet. • Equipment used for Project construction should be hydraulically or electrical powered impact tools (jack hammers, pavement breakers, and rock drills) wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust should be used; this muffler could lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves should be used where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures should be used such as drilling rather than impact equipment whenever feasible. • Stationary noise sources should be located as far from existing sensitive receptors as possible, particularly U.S. Coast Guard residences. If they must be located near existing receptors, they	City	City and Contractor	Development Plan review and approval; construction	As condition of approval of Development Plan, City Planning shall require noise control techniques for construction; City Public Works and Building Services Staff shall periodically conduct site visits to ensure that construction activities are being conducted in compliance with the conditions of approval.

Mitigation Measure	Party Responsible for Funding	Party Responsible for Implementation	Timing of Implementation	Reporting or Monitoring Method and Timing
should be adequately muffled and enclosed within temporary sheds.				
11. **Traffic Noise Attenuation**. The following noise attenuation measures should be required to reduce noise levels at existing or planned adjacent uses: *Tinker Avenue Segment - Main Street to Fifth Street*				
• Prior to the roadway's operation, measures which reduce the operational noise of Tinker Avenue should be provided, such as additional vegetation adjacent to Tinker Avenue from the western property line of the U.S. Coast Guard housing complex to the easternmost residence, and the use of soft road surfaces like rubberized asphalt, to meet either the 60- or 65-dBA standard for usable outdoor space. As a last resort, a noise wall should be provided on the north side of Tinker Avenue from the western property line of the U.S. Coast Guard housing complex to the easternmost residence of that housing development. If necessary, the noise wall should be of a height sufficient to interrupt the noise propagation path (approximately six feet, depending on location of the wall relative to final elevation differences between source and receiver) and to meet either the 60- or 65-dBA standard for usable outdoor space.	City	City	Development Plan review and approval; construction acceptance	City Planning and Public Works Staff shall ensure during the Development Plan review that the plans include adequate noise attenuation along the north side of Tinker Avenue to meet outdoor space standards; Prior to opening the road to traffic, City Public Works Staff shall inspect the noise attenuation measures.

Mitigation Measure	Party Responsible for Funding	Party Responsible for Implementation	Timing of Implementation	Reporting or Monitoring Method and Timing
• Prior to roadway's operation, glazing which reduces interior noise to 45 dBA (CNEL or Ldn) and supplemental mechanical ventilation should be provided in the upstairs rooms of U.S. Coast Guard residences located adjacent to the proposed Tinker Avenue and with upstairs windows facing the street. Provision of supplemental ventilation would allow for window closure. Of the 30 units located immediately adjacent to the proposed Tinker Avenue alignment, nine of these units have no windows on the southern facade (facing the roadway) and no mitigation would be required in these units. Four units have windows facing Tinker Avenue, but they are located on the first floor only where the recommended noise wall would provide sufficient noise protection. However, there are 17 units with at least one upstairs window facing Tinker Avenue and mechanical ventilation would need to be provided in these units if the affected rooms have no other means of ventilation when the windows are closed. If the affected rooms have windows on other sides (not directly facing Tinker Avenue), mechanical ventilation could consist of a room fan. Otherwise, mechanical ventilation would involve a suitable ventilation system.	City	City and U.S. Coast Guard	Development Plan review and approval	During the Development Plan review and approval, City shall design a program with the U.S. Coast Guard for retrofitting the residences potentially affected by noise impacts. City shall implement the program prior to roadway operation.
• Planned residential and school uses with frontage along the proposed Tinker Avenue shall comply with the 60-dBA (CNEL) City Land Use Compatibility Standard for residential and school uses. If they would be exposed to higher noise levels (due to smaller setbacks), noise attenuation measures will need to be incorporated into their design to ensure that City standards are met.	Catellus and AUSD	City and AUSD	Design of residential and school uses of the Catellus project	City Planning and Building Services Staff shall review Development Plans for new residential buildings for the inclusion of necessary design measures prior to issuance of building permits. City shall inform AUSD of noise levels for their use in school design.
Tinker Avenue Segment - Fifth to Mariner Square Loop				
• Planned office/R&D uses with frontage along the proposed Tinker Avenue should be set back sufficiently to meet the 65-dBA (CNEL) City Land Use Compatibility Standard for office and commercial uses. If they would be exposed to higher noise levels (due to smaller setbacks), noise attenuation measures will need to be incorporated into their design to ensure that City standards are met.	City and Catellus	Catellus	Design of office and R&D uses of the Catellus project	City Planning Staff shall review plans for new office and R&D buildings for the inclusion of necessary design measures prior to approval of Development Plans.

Attachment D - Revision to Proposed Mitigated Negative Declaration

Figures 2(b) and 3 of the Proposed Mitigated Negative Declaration show an incorrect realignment of Mariner Square Loop as it curves around an existing athletic club. The correct realignment of Mariner Square Loop around the athletic club is shown in Figure 36.

The revision to the document does not constitute a "substantial revision" under CEQA Guidelines Section 15073.5 because:

1. No new, avoidable significant effect has been identified, and

2. The proposed mitigation measures will continue to reduce potential effects to less than significance.

Recirculation of the Proposed Mitigated Negative Declaration is not required because the revision merely clarifies, amplifies, and makes insignificant modifications to the Proposed Mitigated Negative Declaration.

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The white roadway shows the correct realignment of Mariner Square Loop that is proposed as part of the Tinker Avenue Project.

Figure 36
TINKER AVENUE EXTENSION PROJECT

I, the undersigned, hereby certify that the foregoing Resolution was duly and regularly adopted and passed by the Council of the City of Alameda in a regular meeting assembled on the 21st day of May, 2002, by the following vote to wit:

AYES:	Councilmembers Daysog, DeWitt, Johnson, and Mayor Appezzato - 4.
NOES:	Councilmember Kerr - 1.
ABSENT:	None.
ABSTENTIONS:	None.

IN WITNESS, WHEREOF, I have hereunto set my hand and affixed the official seal of said City this 22nd day of May, 2002.

Lara Weisiger

Lara Weisiger, City Clerk
City of Alameda