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ENVIRONMENTAL ASSESSMENT FOR THE CONSTRUCTION AND OPERATION OF A MODERN ACCESS CONTROL POINT AT MILITARY OCEAN TERMINAL CONCORD, CA

FEBRUARY 2017

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DRAFT

FINDING OF NO SIGNIFICANT IMPACT FOR THE CONSTRUCTION AND OPERATION OF A MODERN ACCESS CONTROL POINT AT MILITARY OCEAN TERMINAL CONCORD, CALIFORNIA

FEBRUARY 2017

Introduction: An Environmental Assessment (EA) was prepared to analyze the potential environmental and social impacts associated with the construction and operation of a modern Access Control Point (ACP) at Military Ocean Terminal Concord (MOTCO). MOTCO is an Army Military Surface Deployment and Distribution Command (SDDC) munitions and general cargo trans-shipment facility located along Suisun Bay in north-central Contra Costa County, California. The Department of Defense (DoD) installation is composed of an approximately 115-acre administrative complex and approximately 6,526-acre Tidal Area. For the purposes of the EA, the administrative complex is referred to as the Inland Area, and the remaining portion of MOTCO is referred to as the Tidal Area.

MOTCO is designated as the DoD trans-shipment port for West Coast ammunition and general cargo movements. The mission executed at MOTCO includes the loading and unloading of ammunition from vessels. The installation is configured to allow for a high level of flexibility in movement and staging of cargo when conducting loading and unloading operations. The current level of operations is expected to remain constant through the foreseeable future.

The EA was prepared in accordance with the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations [CFR] Parts 1500-1508), the Council on Environmental Quality (CEQ) regulations that implement NEPA, and is consistent with the Army NEPA Analysis Guidance Manual and the Army Materiel Command Policy for Implementing the NEPA of 1969. This Finding of No Significant Impact (FNSI) is a document that briefly states why the proposed action would not significantly affect the environment and that an Environmental Impact Statement (EIS) will not be prepared.

Description of the Proposed Action: The Army's proposed action is to construct and operate a modern ACP that provides a dedicated area for the inspection of ammunition-laden trucks and efficient access to the Tidal Area at MOTCO. Currently, there are five designated ACPs at MOTCO. However, there is no dedicated truck inspection area on the installation, and none of the existing ACPs meet all modern Army requirements, including Army Standard for ACPs (April 2012) and Army ACPs Standard Design (May 2013). The purpose of the proposed action is to address current ACP facility deficiencies and modernize an ACP so that the Army can maintain its ability to meet documented DoD mission requirements in support of normal and contingency operations. The proposed action is necessary to provide adequate access control and a primary truck inspection station for MOTCO that meet all current Army design and safety standards. If constructed, the proposed modern ACP would resolve current truck and traffic delays, which would improve the overall efficiency with which MOTCO's operations are completed.

Alternatives Considered: Eight action alternatives and the No Action Alternative were initially considered. Two action alternatives and the No Action Alternative were carried forward for full analysis. The Preferred Alternative includes the construction and operation of a modern ACP using an entrapment system, or sally port design, to control vehicle access and to prevent the forced entry of potential threat vehicles onto the installation. The footprint of the new ACP would encompass approximately 8.6 acres, with an additional 3.9 acres of pavement for parking. The Preferred Alternative would include the demolition of road signage, fencing, and the existing 25-square-foot (SF) guard booth at ACP #5. The Preferred Alternative would require relocation/modification of aerial communication lines (Pacific Gas and Electric Company [PG&E] and AT&T) that run along the highway. The new ACP corridor would cross over an existing Shell high-pressure nitrogen gas line that runs along the edge of Port Chicago Highway pavement. This pipeline would remain and would be protected in place. Existing water, sewer, and underground telecommunications lines would be extended from the existing infrastructure to the proposed ACP. Electrical power is already present at ACP #5; however, a new transformer would be installed to meet the increased demand for electricity. An existing portion of Port Chicago Highway parallel to the proposed ACP location would be decommissioned.

Under the No Action Alternative, the Army would not renovate an existing ACP or construct a new ACP. ACP #2 would continue to be used for the entrance of all truck traffic into the Tidal Area and for all required inspections. Current operational inefficiencies, truck queuing, and traffic congestion would continue on Port Chicago Highway near ACPs #1 and #2. There would continue to be no dedicated facility to inspect trucks before they enter the installation.

Anticipated Environmental Effects: Based on the information gathered and presented in the EA, it has been determined that implementation of the Preferred Alternative would have no significant, direct, indirect, or cumulative impacts on the environment. There would be minor, primarily localized, adverse impacts associated with implementation of the Preferred Alternative on soils, air quality, transportation, and noise. The intensity of impacts was determined to be less than significant for all resources evaluated, and no adverse environmental justice or cultural resources impacts were identified. Beneficial impacts on transportation, health and safety, and socioeconomics were identified.

In accordance with Section 7 of the Endangered Species Act (ESA), the U.S. Fish and Wildlife Service (USFWS) requires the Army to complete protocol-level surveys for the California red-legged frog and the California tiger salamander because the range for the California red-legged frog extends into Contra Costa County and MOTCO is within the range of the Central Valley population of California tiger salamanders. Protocol-level surveys were completed most recently during the 2014-2015 and 2015-2016 seasons. Three sample locations included in the recent surveys were located in the vicinity of the Preferred Alternative site. The 2014-2015 and 2015-2016 protocol surveys, in conjunction with past surveys, indicate a negative finding for both the California red-legged frog and California tiger salamander.

In preparing this EA, the Army consulted with the USFWS regarding the potential for implementation of the Preferred Alternative to affect threatened and endangered species or critical habitat. In a December 7, 2016 letter, the Army asked for USFWS concurrence with their

determination that the Preferred Alternative may affect, but is not likely to adversely affect the California red-legged frog and the California tiger salamander, due to the very low potential for occurrence, coupled with the implementation of avoidance and minimization measures that would be incorporated in the project. The USFWS concurred with the Army's determination on January 17, 2017.

In April 2015, the Army performed a cultural resources survey at the location of the proposed ACP. The survey consisted of inspecting the ground surface in 10- to 15-meter transects within the Area of Potential Effects (APE). Based on the results of the survey, the Army initiated consultation with the State Historic Preservation Officer (SHPO) under Section 106 of the National Historic Preservation Act of 1966 (NHPA) on May 28, 2015, and sought concurrence with their determination and documentation of the APE and finding of *no historic properties affected*. As part of Section 106 initiation, scoping letters were also sent to federally recognized Native American Tribes seeking input on the proposed project. Consultation with the SHPO is still ongoing; however, the Army anticipates concurrence with their determination. Before construction would begin on the new ACP, Section 106 SHPO concurrence must be received.

Public and Agency Review Period: The Draft EA and Draft FNSI will be made available to the general public and applicable government agencies for review and comment during the 30-day period that commences with publication of the Notice of Availability in the *East County Times* and *Contra Costa Times* on February 6, 2017. The Draft EA and Draft FNSI will be posted on the following website: https://www.sddc.army.mil/Pages/default.aspx. Copies of these documents will be available at the Concord Public Library, 2900 Salvio Street, Concord, California 94519, and the Bay Point Library, 205 Pacifica Avenue, Bay Point, California 94565. Copies of the Draft EA and Draft FNSI will be sent directly to applicable agencies for their review.

Public and Agency Comments Received: Public and agency comments received on the Draft EA will be addressed in the Final EA.

Findings: On the basis of the findings of the EA conducted in accordance with the requirements of NEPA, CEQ regulations that implement NEPA, Army NEPA Analysis Guidance Manual, and Army Materiel Command Policy for Implementing the NEPA of 1969, and after careful review of the potential impacts of the proposed action or alternatives, I have concluded that the implementation of the proposed action would not constitute a major federal action significantly affecting the quality of the human or natural environments or generate significant controversy. Consequently, issuance of a FNSI is warranted and implementation of the proposed action does not require the preparation of an EIS.

Approved by:

_____ _____

James R. Wiley Date
Lieutenant Colonel, U.S. Army
Commanding

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ACRONYMS AND ABBREVIATIONS

AADT	annual average daily traffic volumes
ACM	asbestos-containing materials
ACP	Access Control Point
AFMAN	Air Force Manual
AMC	Army Materiel Command
APE	Area of Potential Effects
AOB	Area of Benefits
AR	Army Regulation
ARPA	Archaeological Resources Protection Act
ATCM	Airborne Toxic Control Measure
AT/FP	anti-terrorism/force protection
ATSDR	Agency for Toxic Substance and Disease Registry
BA	Biological Assessment
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practices
BNSF	Burlington Northern Santa Fe
BO	Biological Opinion
B.P.	before present
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CAL Green	California Green
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CARE	Community Action for Renewed Environment
CCCFPD	Contra Costa County Fire Protection District
CCTV	closed-circuit television
CCWD	Contra Costa Water District
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFC	chlorofluorocarbons
CFR	Code of Federal Regulations
CH_4	methane
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2	Carbon Dioxide
CO_2e	CO_2 equivalency
CO	carbon monoxide

CWA	Clean Water Act
CX	Categorical Exclusion
CY	cubic yards
dB	decibel
dBA	A-weighed decibel
DERP	Defense Environmental Restoration Program
DLAR	Defense Logistics Agency Regulation
DNL	Day/Night Average Noise Level
DoD	Department of Defense
DODX	DoD-owned Rail Cars
DOGGR	California Division of Oil, Gas, and Geothermal Resources
DPW	Department of Public Works
EA	Environmental Assessment
ECM	Environmental Compliance Manager
EIS	Environmental Impact Statement
EMCS	Energy Monitoring Control Systems
EO	Executive Order
EOD	explosive ordnance disposal
ESA	Endangered Species Act
ESS	Explosives Safety Submission
FEMA	Federal Emergency Management Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FNSI	Finding of No Significant Impact
FS	Feasibility Study
GHG	greenhouse gas
HAP	Hazardous air pollutants
HFC	hydrochlorofluorocarbons
HMMP	Hazardous Material Management Plan
HSPD	Homeland Security Presidential Directive
HWMP	Hazardous Waste Management Program
IBA	Important Bird Area
IBD ESQD	Inhabited Building Distance Explosive Safety Quantity-Distance
ICRMP	Integrated Cultural Resources Management Plan
IDC	Installation Design Guidance
IDS	Intrusion Detection System
IDP	Installation Planning Standards
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Conservation Tool

IRP	Installation Restoration Program
K	soil erosion factor
LBP	lead-based paint
LEED	Leadership in Energy and Environmental Design
LF	linear feet
LID	Low-Impact Development
LOS	level of service
LTM	Long-term Management
LUC	Land Use Controls
LUCIP	Land Use Control and Implementation Plan
MAC	Municipal Advisory Council
MCO	Marine Corps Order
MEC	munitions and explosives of concern
MIG	Moore Iacofano Goltsman
MLLW	mean lower low water
MMPA	Marine Mammal Protection Act
MMRP	Military Munitions Response Program
MOTCO	Military Ocean Terminal Concord
mph	miles per hour
MRR	maintenance, repair, and replacement
MRS	munitions response sites
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAVFAC	Naval Engineering Facilities Command
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NEW	net explosive weight
NHPA	National Historic Preservation Act
nm	nautical miles
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
N_2O	nitrous oxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory

NWSSBD	Naval Weapons Station Seal Beach Detachment
O_3	ozone
OPNAVINST	Office of the Chief of Naval Operations Instruction
OSHA	Occupational Safety and Health Administration
OHSSPRP	Oil and Hazardous Substance Spill Prevention and Response Plan
OPLAN	Operations Plan
PA	Preliminary Assessment
PAH	Polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PEA	Programmatic EA
PG&E	Pacific Gas and Electric Company
PM	particulate matter
ppb	parts per billion
ppm	parts per million
POL	petroleum, oil, and lubricants
POV	privately owned vehicle
RA	Remedial Action
RC	Response Complete
RCRA	Resource Conservation Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
ROI	region of influence
RPMP	Real Property Master Plan
RWQCB	Regional Water Quality Control Board
SAP	Satellite Accumulation Point
SC	Site Closeout
SDDC	Surface Deployment and Distribution Command
SDDCTEA	Military Surface Deployment and Distribution Command Transportation Engineering Agency
SF	square foot/feet
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO_2	sulfur dioxide
SOPs	Standard Operating Procedures
SPCC	Spill Prevention, Control, and Countermeasures
SWPPP	Stormwater Pollution Prevention Plan
SY	square yards

TBD	to be determined
TCP	Traditional Cultural Property
TRANS BN	Transportation Battalion
TSCA	Toxic Substances Control Act
TWW	treated wood waste
UFC	Unified Facilities Criteria
ULV	Ultra-low volume
UPS	uninterruptible power supply
UPRR	Union Pacific Railroad
UXO	unexploded ordnance
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VCC	Visitor Control Center
VOC	volatile organic compound
VRP	visibility-reducing particle

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EXECUTIVE SUMMARY

This Environmental Assessment (EA) is being prepared to assess the potential environmental and social impacts associated with the construction and operation of a modern Access Control Point (ACP) on Military Ocean Terminal Concord (MOTCO). It is being prepared in accordance with the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations [CFR] Parts 1500-1508), the Council on Environmental Quality (CEQ) regulations that implement NEPA, and is consistent with the Army NEPA Analysis Guidance Manual and the Army Materiel Command Policy for Implementing the NEPA of 1969.

MOTCO is designated as the DoD trans-shipment port for West Coast ammunition and general cargo movements. The mission executed at MOTCO includes the loading and unloading of ammunition from vessels. The installation is configured to allow for a high level of flexibility in movement and staging of cargo when conducting loading and unloading operations. The current level of operations is expected to remain constant through the foreseeable future.

The Army's proposed action is to construct and operate a modern ACP that provides a dedicated area for the inspection of ammunition-laden trucks and efficient access to the Tidal Area at MOTCO. MOTCO is located along Suisun Bay in north-central Contra Costa County, California. The installation is composed of an approximately 115-acre administrative complex and an approximately 6,526-acre Tidal Area. For the purposes of the EA, the administrative complex is referred to as the Inland Area, and the remaining portion of MOTCO is referred to as the Tidal Area. Within the installation boundary, the Inland Area and the Tidal Area are connected by a portion of Port Chicago Highway.

Currently, there are five designated ACPs at MOTCO. However, there is no dedicated truck inspection area on the installation, and none of the existing ACPs meet all modern Army requirements, including Army Standard for ACPs (April 2012) and Army ACPs Standard Design (May 2013). The purpose of the proposed action is to address current ACP facility deficiencies and modernize an ACP so that the Army can maintain its capability to efficiently meet documented DoD mission requirements in support of normal and contingency operations. The proposed action is necessary to provide adequate access control and a primary truck inspection station for MOTCO that meet all current Army design and safety standards. If constructed, the proposed modern ACP would resolve current truck and traffic delays, which would improve the overall efficiency with which MOTCO's operations are completed. Without the proposed action, the DoD's ability to perform its current and future contingency operations in the Pacific theater would be impacted.

The Preferred Alternative includes the construction and operation of a modern ACP using an entrapment system, or sally port design, to control vehicle access and to prevent the forced entry of potential threat vehicles onto the installation. The Preferred Alternative would be located near the existing ACP #5 location on the north side of Port Chicago Highway. The footprint of the new ACP would encompass approximately 8.6 acres, with an additional 3.9 acres of pavement for parking. The Preferred Alternative would include site development, site improvements, utilities and connections, lighting, paving, parking, walks, curbs and gutters, storm drainage, information systems, landscaping, and signage. Heating and air conditioning

would be provided by a self-contained system. The new facilities would be designed to have a minimum life of 50 years. All required anti-terrorism/force protection (AT/FP) measures would be included in the construction plan for the proposed ACP.

Construction of the proposed ACP would result in minor, short-term soil impacts, as increased localized potential for soil erosion would occur at the project site. Approximately 12.5 acres of soils would be disturbed. The Preferred Alternative is not located within a wetland area or the 100-year floodplain; therefore, no impacts on wetlands or floodplains are anticipated. Overall, there would be negligible impacts on water resources at MOTCO as a result of implementation of the Preferred Alternative.

Temporary and minor impacts on air pollution would occur from the use of construction equipment (combustion emissions) and the disturbance of soils (fugitive dust) during construction of the proposed ACP. However, these emissions would be temporary and return to pre-project levels upon the completion of construction. Emissions as a result of the Preferred Alternative are expected to be below the *de minimis* threshold and therefore would not be considered significant. Best Management Practices (BMPs), such as dust suppression and maintaining equipment in proper working condition, would reduce the temporary construction impacts. Once construction is completed, air emissions would be expected to be reduced over current levels due to the new ACP and dedicated truck inspection area, which would result in the more efficient movement of truck traffic and cargo and the reduction of traffic congestion and idling time.

The Preferred Alternative is located in an upland area that supports non-native annual grasslands. MOTCO contains over 1,700 acres of this non-native habitat, and the loss of 12.5 acres would result in negligible impacts on vegetative habitat and wildlife. The U.S. Fish and Wildlife Service (USFWS) requires the Army to complete protocol-level surveys for the California red-legged frog and California tiger salamander because the range for the California red-legged frog extends into Contra Costa County and MOTCO is within the range of the Central Valley population of California tiger salamanders. Protocol-level surveys were completed most recently during the 2014-2015 and 2015-2016 seasons. Three sample locations included in the recent surveys were located in the vicinity of the Preferred Alternative site. The 2014-2015 and 2015-2016 protocol surveys, in conjunction with past surveys, indicate a negative finding for both the California red-legged frog and California tiger salamander. In consultation with the USFWS, the Army determined that the Preferred Alternative may affect, but is not likely to adversely affect the California red-legged frog and California tiger salamander, due to the very low potential for occurrence, coupled with the implementation of avoidance and minimization measures that would be incorporated in the project.

There is no Critical Habitat designated at MOTCO for any protected terrestrial species. Therefore, the Preferred Alternative would not result in major impacts on protected species or designated Critical Habitats.

In preparing this EA, the Army consulted with the USFWS regarding the potential for implementation of the Preferred Alternative to affect threatened and endangered species or critical habitat. In a December 7, 2016 letter, the Army asked for USFWS concurrence with their

determination that the Preferred Alternative may affect, but is not likely to adversely affect the California red-legged frog and the California tiger salamander, due to the very low potential for occurrence, coupled with the implementation of avoidance and minimization measures that would be incorporated in the project. The USFWS concurred with the Army's determination on January 17, 2017.

Implementation of the Preferred Alternative would not result in any changes to land use; the site is located within in the eastern portion of the Tidal Area in an area identified in MOTCO's Real Property Master Plan (RPMP) as having high development potential and outside the Inhabited Building Distance Explosive Safety Quantity-Distance (IBD ESQD) arc. Reinstitution of ACP #5 as a major point of entry to the installation is consistent with the land use outlined in MOTCO's RPMP.

Temporary increases in traffic would occur during construction of the proposed ACP. Once the ACP is constructed, all mission-related traffic would be shifted from ACP #2 to the new ACP. General installation support traffic (e.g., maintenance, repair, and delivery trips.), which is estimated to be up to 4 trucks per year at the new ACP, would have a negligible impact on the level of service (LOS) along Port Chicago Highway through the community of Bay Point.

During annual missions, MOTCO's total truck volume using the new ACP would be approximately 258 trucks. Missions would typically take place for up to 36 days each year. Increases in truck traffic would be intermittent and would equate to an additional 7 trucks per day for each of the 36 days associated with the mission. Once the mission is completed, it is estimated that non-mission truck traffic would be no greater than 4 trucks per year for general installation support.

Approximately 80 personnel would be present each day for contracted terminal operations and as stevedore personnel during a mission. On a daily basis for up to 36 days each year, personnel would drive privately owned vehicles (POVs) through Bay Point on Port Chicago Highway. The POV traffic would be intermittent and would only occur during missions. Once a mission is completed, no more than 5 POVs would be expected to use the proposed ACP on a daily basis to access the Tidal Area. In addition to POVs, up to 4 government-owned vehicles (GOVs) could use the new ACP on a daily basis.

Overall, mission-related short-term, minor increases in traffic through the community of Bay Point would be expected under the Preferred Alternative. The minor traffic increase could cause further congestion at the traffic signal at the intersection of Port Chicago Highway and Pacifica Avenue, which already has an unacceptable LOS during morning hours. As part of the Preferred Alternative, MOTCO would work with its trucking contractors to implement restrictions on delivery times during morning hours on school days, where practicable. No changes to the area mass transit, rail transport, or water transport would occur with implementation of the Preferred Alternative.

No major impacts on visual resources would occur from construction and operation of the proposed ACP. Under the Preferred Alternative, noise associated with the construction of the proposed ACP would not adversely affect sensitive receptors since the noise would attenuate to

ambient background noise levels, and noise impacts from construction activities would also be considered negligible. With implementation of the Preferred Alternative, the change in noise due to mission-related truck traffic would be less than 3 A-weighted decibels (dBA), the threshold at which noise is perceptible to the human ear and impacts are considered significant. Thus, noise impacts on the community would be negligible.

No adverse direct impacts would occur on socioeconomics or environmental justice issues as a result of the Preferred Alternative. However, construction of the proposed ACP could have temporary beneficial impacts on the region's economy due to temporary employment and sales taxes generated through the purchase of construction-related items such as fuel and food.

Under the Preferred Alternative, vehicular traffic through Bay Point would temporarily increase; however, the projected increase would have no major adverse impacts on the residents of Bay Point in terms of traffic congestion or air quality. With regard to children, all construction would occur on MOTCO property, where access is restricted, and the MOTCO-related traffic through Bay Point would be limited in the mornings on school days, to the extent possible, when children are expected to be present. With these restrictions in place, no disproportionate safety or health risks to children are expected.

As part of the Preferred Alternative, practices and policies would be in place to protect human health and minimize safety risks. These practices and policies would be coordinated between construction contractors and the Army prior to initiation of construction activities. Furthermore, all activities would follow all applicable Occupational Safety and Health Administration (OSHA) requirements. Therefore, the Preferred Alternative would not result in any major adverse health or safety effects. The Preferred Alternative could, however, indirectly benefit the safety of community of Bay Point residents since the Army would have a 24-hour security presence at the ACP. The Army performed a cultural resources survey at the location of proposed ACP. The survey consisted of inspecting the ground surface in 10 to15 meter transects within the Area of Potential Effects (APE), in April 2015. Based on the results of the survey, the Army initiated consultation with the State Historic Preservation Officer (SHPO) and federally recognized Native American Tribes under Section 106 of the National Historic Preservation Act of 1966 (NHPA) on May 28, 2015, and sought concurrence with their determination and documentation of the APE and finding of *no historic properties affected*. As part of Section 106 initiation, scoping letters were also sent to federally recognized Native American Tribes seeking input on the proposed project. Consultation with the SHPO is still ongoing; however, the Army anticipates concurrence with their determination. Before construction would begin on the new ACP, Section 106 SHPO concurrence must be received.

Based upon the analyses of the EA and the BMPs, precautionary avoidance, minimization, and compensation measures to be implemented, the Preferred Alternative would not have a significant adverse effect on the environment. Therefore, no further analysis or documentation (i.e., Environmental Impact Statement) is warranted. The Army, in implementing this decision, would employ all practical means to minimize the potential for adverse impacts on the human and natural environments.

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

This Environmental Assessment (EA) is being prepared to assess the potential environmental and social impacts associated with the construction and operation of a new Access Control Point (ACP) on Military Ocean Terminal Concord (MOTCO). It will identify the potential environmental effects of the proposed action and alternatives, and will include discussions of any mitigation and permit requirements, findings, and conclusions.

This EA evaluates the following in detail:

- Proposed action to construct and operate a new modern ACP
- Alternatives, including the No Action Alternative
- Specific impacts on natural, cultural, and societal resources

1.2 INSTALLATION DESCRIPTION AND CURRENT SITUATION

MOTCO is an Army Military Surface Deployment and Distribution Command (SDDC) munitions and general cargo trans-shipment facility located along Suisun Bay in north-central Contra Costa County, California (Figure 1-1). The Department of Defense (DoD) installation is composed of an approximately 115-acre administrative complex and an approximately 6,526-acre Tidal Area. For the purposes of this EA, the administrative complex is referred to as the Inland Area, and the remaining portion of MOTCO is referred to as the Tidal Area (Figure 1-2). Within the installation boundary, the Inland Area and the Tidal Area are connected by a portion of Port Chicago Highway.

MOTCO installation lands were formerly Department of Navy lands within Naval Weapons Station Seal Beach Detachment (NWSSBD) Concord. In 2008, MOTCO properties were transferred from the Navy to the Army per the 2005 Base Realignment and Closure (BRAC) Commission recommendations. However, the Army's presence at MOTCO dates back to 1997, when the Army 1302nd Major Port Command was relocated from Oakland Army Base to MOTCO and became the 834th Transportation Battalion (TRANS BN). The mission of the 834th TRANS BN is to provide terminal and distribution services in support of deploying and redeploying forces in the California Area of Responsibility and, further, to safely provide ammunition terminal services at MOTCO.

MOTCO is designated as the DoD trans-shipment port for West Coast ammunition movements. The installation is optimally located to serve the DoD. The Tidal Area contains facilities for reception, staging, and loading of ammunition; railroad and truck classification yards; and three ocean terminal piers. MOTCO receives ammunition by rail and highway; stages containers, railcars, and trailers; and loads vessels with containers and breakbulk (loose items) ammunition; however, MOTCO does not store ammunition.

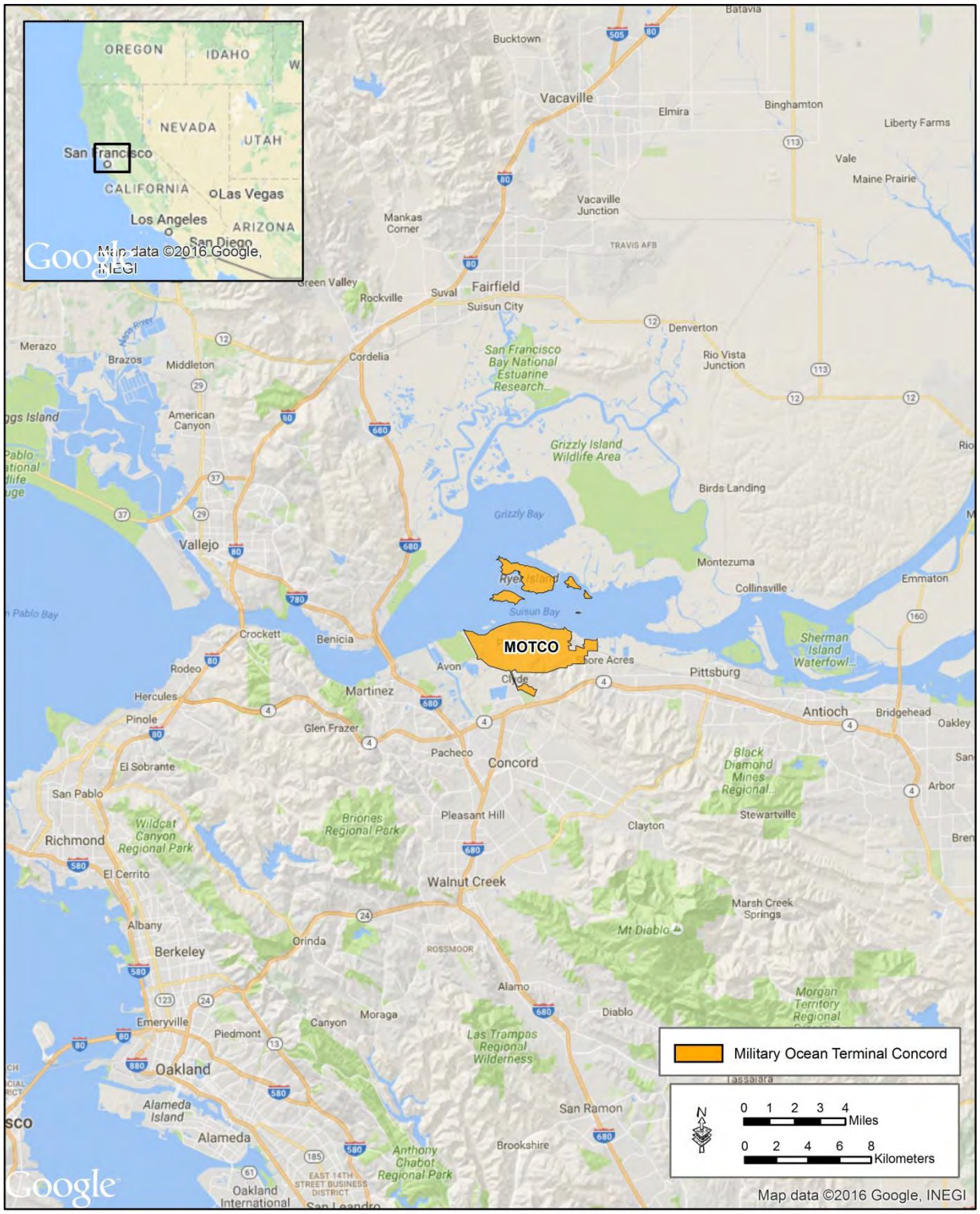

Figure 1-1. Regional Location

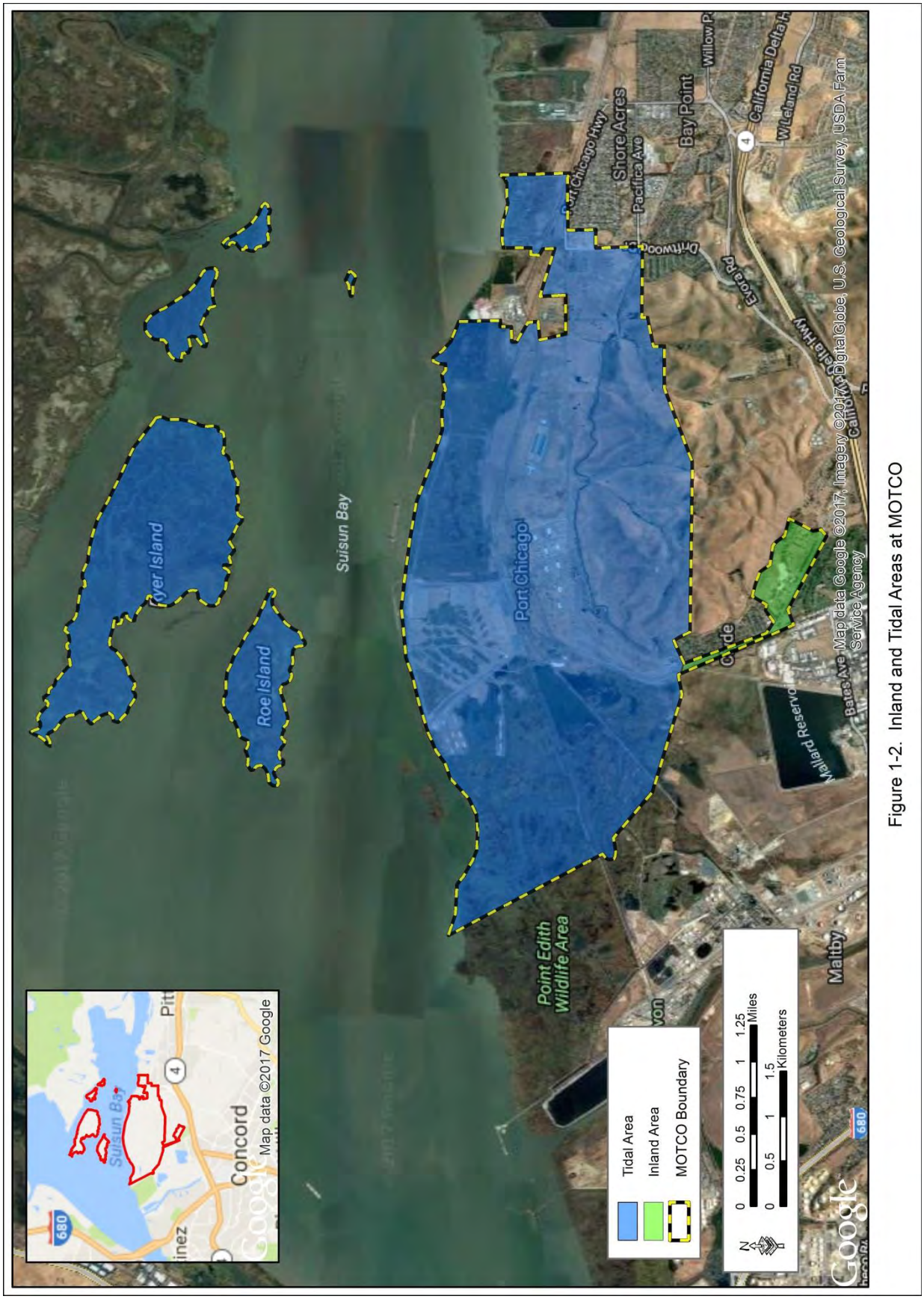

Figure 1-2. Inland and Tidal Areas at MOTCO

The mission executed at MOTCO includes both the loading and unloading of ammunition from vessels. The installation is configured to allow for a high level of flexibility in movement and staging of cargo when conducting loading and unloading operations. The current level of operations is expected to remain constant through the foreseeable future. Cargo movement and staging is conducted using piers, rail lines, classification yards, transfer pads, and internal truck routes located throughout the Tidal Area. The cargo movement component of individual missions is pre-planned and orchestrated by the 834th TRANS BN to maximize efficiency.

To meet demands of a rapidly transforming Army, MOTCO requires a clearly defined vision for the future and a strategy for transforming and developing its facilities. The long-term vision for MOTCO is to transform the installation into a versatile, modern, and efficient seaport capable of receiving, staging, and moving ammunition and cargo as necessary to meet DoD requirements. In the short term, MOTCO is focused on the ongoing munitions mission, which includes addressing current facility deficiencies.

Most buildings at MOTCO were constructed in the 1940s and do not meet current Army safety and design standards. Numerous evaluations have identified serious safety, security, and structural deficiencies at MOTCO facilities, including the existing ACPs, which must be addressed in order to continue to meet the installation's current mission demands, as well as ensure uninterrupted mission capacity to meet future requirements. In addition to facility deficiencies, several correctable explosive safety violations have been identified, such as inhabited buildings within the Inhabited Building Distance Explosive Safety Quantity-Distance (IBD ESQD) arc. The IBD ESQD arc establishes separation distances from explosives to nearby structures and areas where nonessential personnel could be present. Recent Army standards mandate that all new facilities be sited in compliance with explosive safety requirements (i.e., are located outside the IBD ESQD arc).

1.2.1 Access Control Points

Currently, there are five designated ACPs at MOTCO (Figure 1-3). However, there is no dedicated inspection area on the installation for ammunition-laden trucks, and none of the existing ACPs meet all modern Army requirements, including Army Standard for ACPs (April 2012) and Army ACPs Standard Design (May 2013). ACP #1 and ACP #2 are currently the main entrances into MOTCO's Inland and Tidal Areas and are part of the built environment identified in the RPMP (Figure 1-3; MOTCO 2011). ACP #3 and ACP #4 are located within areas that have restrictions on development based on the presence of the IBD ESQD arc (Figure 1-3; MOTCO 2011). ACP #5 is located within one of only three areas of high development potential outside the IBD ESQD arc at MOTCO, and it is the only area which would meet the functional requirements for a modern ACP (Figure 1-3; MOTCO 2011).

Shortfalls in access control have been identified in vulnerability assessments and during preparation of the Real Property Master Plan (RPMP). An ACP defines the ingress/egress point through an installation's perimeter security system, and it is broadly recognized as the first

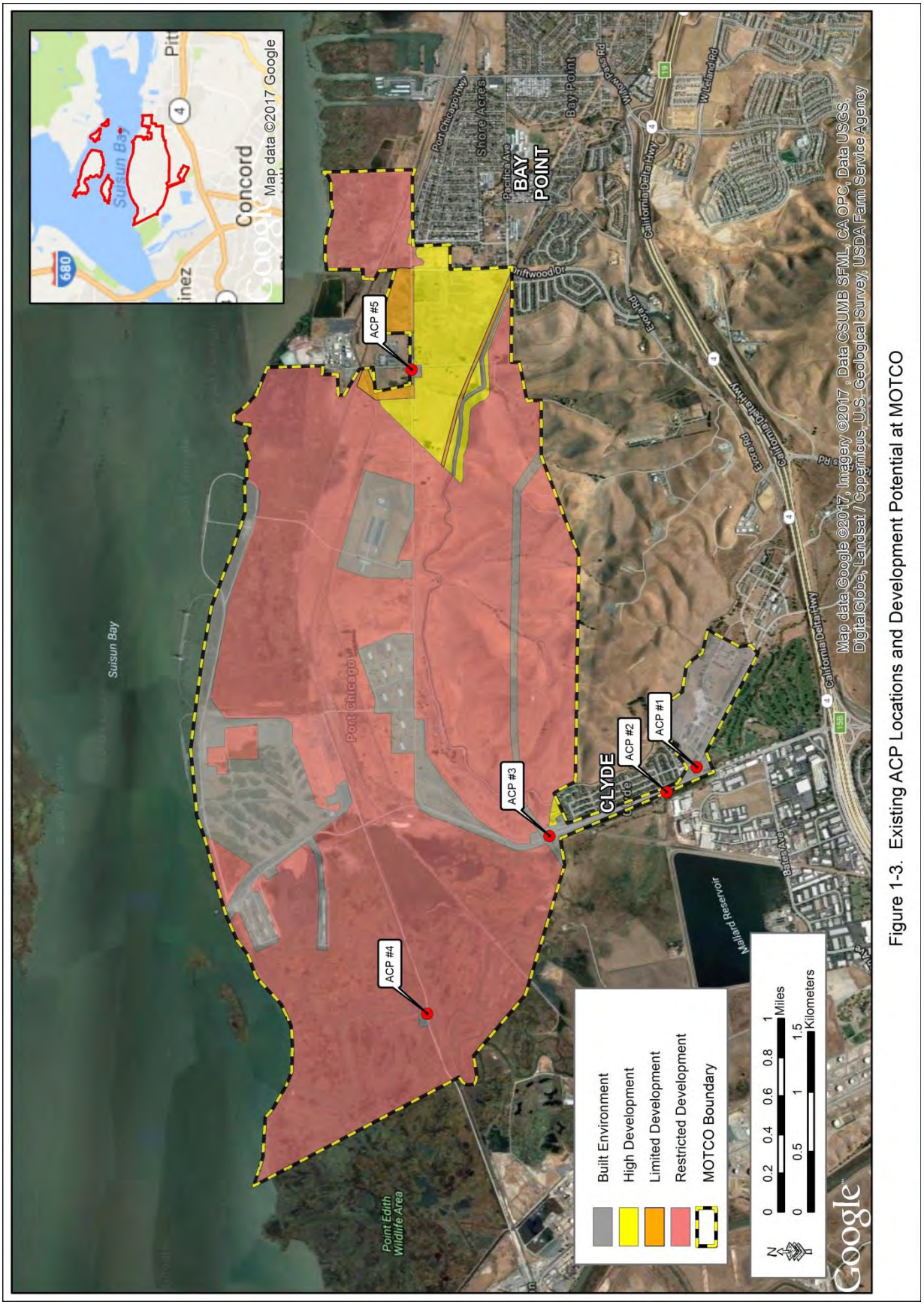

Figure 1-3. Existing ACP Locations and Development Potential at MOTCO

and best place to defend against a perceived threat. An ACP provides a location to check the identification of visitors, process visitors, and register and provide inspection of vehicles (i.e., trucks and privately owned vehicles [POVs]) attempting to enter an installation. The main purpose of an ACP is to secure the installation from unauthorized access, provide a first defense against terrorist threats, and intercept contraband while maximizing vehicular traffic flow. ACP priorities include security, safety, traffic flow, and aesthetics. Security is the first priority of any DoD ACP. Following the September 11, 2001, attacks, the demand for physical security initiatives at ACPs increased dramatically. With increased demand came new security directives, guidelines, design guides, and technologies, including but not limited to the following:

- DoD 5200.08-R, Physical Security System
- DoD O-2000.12-H, DoD Antiterrorism Handbook
- Homeland Security Presidential Directive (HSPD)-12
- Unified Facilities Criteria (UFC) 4-010-01 DoD Minimum Antiterrorism Standards for Buildings
- UFC 4-010-02 DoD Minimum Standoff Distances for Buildings
- UFC 4-010-10 DoD Minimum Antiterrorism Standoff Distances for Buildings
- UFC 4-020-01 DoD Security Engineering Facilities Planning Manual
- UFC 4-020-02FA Security Engineering: Concept Design
- UFC 4-020-03FA Security Engineering: Final Design
- UFC 4-020-04FA Electronic Security Systems: Security Engineering
- UFC 4-022-01 Security Engineering: Entry Control Facilities/Access Control Points
- UFC 4-022-02 Selection and Application of Vehicle Barriers
- Military Surface Deployment and Distribution Command Transportation Engineering Agency (SDDCTEA) Pamphlet 55-15, Traffic and Safety Engineering for Better Entry Control Facilities
- Army Access Control Points Standards/Criteria, 2009

Similarly, traffic and safety are high priorities at ACPs, and the design and operation of all DoD ACPs must be in compliance with the following:

- Joint Regulation (Army Regulation [AR] 55-80, Office of the Chief of Naval Operations Instruction [OPNAVINST] 11210.2, Air Force Manual [AFMAN] 32-1017
  Marine Corps Order [MCO] 11210.2D and Defense Logistics Agency Regulation [DLAR] 4500.19)
- SDDCTEA Pamphlet 55-14, Traffic Engineering for Better Signs and Markings
- SDDCTEA Pamphlet 55-17, Better Military Traffic Engineering
- UFC 3-210-01A: Area Planning, Site Planning, and Design
- UFC 3-210-06A: Site Planning and Design
- UFC 3-250-18FA: General Provisions and Geometric Design for Roads, Streets, Walks, and Open Storage Areas
- UFC 3-530-01: Design: Interior and Exterior Lighting and Controls

1.3 PURPOSE AND NEED

The purpose of the proposed action is to address current ACP facility deficiencies and modernize an ACP so that the Army can maintain its capability to meet documented DoD mission requirements in support of normal and contingency operations. The proposed action is necessary to provide adequate access control and a primary truck inspection station for MOTCO that meet all current Army design and safety standards. If constructed, the proposed modern ACP would resolve current truck and traffic delays, which would improve the overall efficiency with which MOTCO's operations are completed. Without the proposed action, the DoD's ability to perform its current and future contingency operations in the Pacific theater could be impacted. Without a modern, secure ACP, destruction of stored munitions, damage to ships docked at the pier for loading and unloading ammunition, loss of lives, and destruction of buildings and facilities in the surrounding areas could occur.

1.4 SCOPE AND CONTENT OF THIS EA

This EA identifies the potential environmental effects of the proposed action and alternatives and includes discussions of any mitigation and permit requirements, findings, and conclusions. It is being prepared in accordance with the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations [CFR] Parts 1500-1508) and the Council on Environmental Quality (CEQ) regulations that implement NEPA. It is consistent with the Army NEPA Analysis Guidance Manual (Army 2007) and the Army Materiel Command (AMC) Policy for Implementing the NEPA of 1969 (Army 2014).

1.5 DECISION TO BE MADE

The decision to be made by the Commanding Officer of MOTCO is whether or not the construction and operation of the new ACP at MOTCO qualifies for a Finding of No Significant Impact (FNSI) under NEPA or whether an Environmental Impact Statement (EIS) must be prepared.

1.6 AGENCY AND PUBLIC INVOLVEMENT

NEPA regulations require an early and open process for determining the scope of issues that should be addressed prior to implementation of a proposed action. The Army initiated the public scoping process with a presentation to the Clyde Community Board of Supervisors in Clyde, California, on May 4, 2016. Also on May 4, 2016, a Public Meeting Notice for an additional scoping meeting in Bay Point, California, was published in the *East County Times* (Appendix A). On May 18, 2016, an open-house-style public scoping meeting was held at Riverview Middle School, 205 Pacifica Avenue, Bay Point, California 94565, from 6:00 p.m. to 8:00 p.m. On September 6, 2016, MOTCO met with the Bay Point Municipal Advisory Council (MAC) to discuss the proposed action, answer questions, and receive MAC and public comments (Appendix A). Public comments received at all scoping meetings were considered when preparing this Draft EA.

At the start of the planning process for this EA, the Army sent scoping letters to the U.S. Fish and Wildlife Service (USFWS), National Park Service (NPS), California State Historic

Preservation Officer (SHPO), and federally recognized Native American Tribes (Appendix A). In addition, in accordance Section 7 of the Endangered Species Act (ESA), the Army consulted with the USFWS on the proposed action. The Army received a request from the USFWS to conclude consultation on the proposed action, and the Army sent a response letter on December 7, 2016, requesting concurrence with their determination that the Preferred Alternative may affect, but is not likely to adversely affect, the California red-legged frog and the California tiger salamander, due to the very low potential for occurrence, coupled with the implementation of avoidance and minimization measures that would be incorporated in the project (Appendix A). The USFWS concurred with the Army's determination on January 17, 2017 (Appendix A).

The Army initiated consultation with the SHPO under Section 106 of the NHPA on May 28, 2015 (Appendix A), and sought concurrence with their determination and documentation of the APE and finding of *no historic properties affected*. As part of Section 106 initiation, scoping letters were also sent to federally recognized Native American Tribes seeking input on the proposed project (Appendix A). Consultation with the SHPO is still ongoing; however, the Army anticipates concurrence with their determination. Before construction would begin on the new ACP, Section 106 SHPO concurrence must be received.

This Draft EA and Draft FNSI will be available to the general public and applicable government agencies for review and comment during the 30-day period that commenced with the Notice of Availability (NOA) published in the *East County Times* and *Contra Costa Times* on February 6, 2017 (Appendix A). Copies of the Draft EA and Draft FNSI will also be available at the Concord Public Library, 2900 Salvio Street, Concord, California 94519, and the Bay Point Library, 205 Pacifica Avenue, Bay Point, California 94565. The Draft EA and Draft FNSI can also be viewed at the following Army website: https://www.sddc.army.mil/Pages/default.aspx. Comments received on the draft documents during the 30-day review period will be incorporated into the Final EA and Final FNSI.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

The Army proposes to construct and operate a modern ACP that provides a dedicated area for the inspection of ammunition-laden trucks and efficient access to the Tidal Area at MOTCO. The proposed ACP would be operated 24 hours a day, seven days a week, and manned at all times. The proposed action would include the following design components:

- Gate House
- Search Area Office
- Overwatch Booth
- Two Guard Booths
- Overhead Protection (Search Area)
- Concrete Pavement (Covered Hardstand)
- Cable Vault
- Pavement and Roads
- Active Vehicle Barriers (with Control System)
- Entry Gate
- Traffic Arms
- Signal Lights
- Passive Vehicle Barriers
- Uninterruptible Power Supply (UPS)
- Backup Generator
- Curbs and Gutters
- Lighting
- Fencing
- Automatic Transfer Switch
- POV Parking
- Building Information Systems
- Anti-terrorism/Force Protection (AT/FP) Measures
- Intrusion Detection System (IDS) Installation
- Energy Monitoring Control Systems (EMCS) Connections

The proposed action would include a paved access gate area with roadways and two parking areas. The paved access gate area would include truck queuing, search area, inbound and outbound lanes, bus loading, and turnaround areas. The parking facilities would include stevedore parking with paved surface and an overflow parking area with paved or gravel surface. The proposed action would also include site development, site improvements, utilities and connections, lighting, paving, parking, walks, curbs and gutters, storm drainage, information systems, landscaping, and signage.

If there is no existing storm drainage system at the site, surface drainage swales/ditches and underground pipes would be utilized to route stormwater runoff from the roof of buildings and pavement to several detention areas that would then drain into existing creeks/swales. Landscaping methods in accordance with the MOTCO Facilities Design Guidelines for

landscaping practices would be used. The design would incorporate local California natives and locally adapted plants, and landscape elements would be designed to reduce water demand and decrease excess runoff, and would incorporate low-volume irrigation methods and xeriscaping techniques while providing landscape similar to the existing natural environment and meeting security needs and requirements.

Existing water, sewer, and underground telecommunications lines at MOTCO would be extended to service the proposed ACP. All new facilities would be designed to have a minimum life of 50 years, in accordance with the DoD UFC 1-200-02, including energy efficiencies and building envelope and integrated building systems performance. All required AT/FP measures would be included in the construction plan for the proposed ACP.

The modern ACP would be constructed with design elements integrated into the overall project design to achieve the required Leadership in Energy and Environmental Design (LEED) level green building certification. The ACP would also comply with Low-Impact Development (LID) design guidelines to reduce the development impacts on the site and the surrounding environment.

2.1 CONSIDERATION OF ALTERNATIVES

NEPA's implementing regulations provide guidance on the consideration of alternatives for a federally proposed action and require a rigorous exploration and an objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable require detailed analysis.

The following criteria were used to screen alternatives for full consideration:

- Logistics and Safety: The range of reasonable alternatives to meet the purpose and need to provide adequate access control and a primary truck inspection station for MOTCO that meet all current Army design and safety standards is fundamentally limited because the installation's infrastructure is strategically located for mission purposes and has a fully developed pattern of functional relationships already in place. For example, all alternatives carried forward for analysis must be located outside of the IBD ESQD arc and must provide efficient access to the Tidal Area.

- Consistency with the Army's Planning and Design Process: The proposed action is to construct and operate a modern ACP that provides a dedicated area for the inspection of ammunition-laden trucks and efficient access to the Tidal Area at MOTCO. The Army has planned, budgeted, and designed the project to meet these planning parameters. Alternatives must be consistent with MOTCO's current and future development and natural and cultural resources management plans (i.e., Real Property Master Plan, Utility Master Plan, Installation Development Plan, Integrated Natural Resources Management Plan [INRMP], and Integrated Cultural Resources Management Plan [ICRMP]). Alternatives must not require additional construction, renovation, or upgrades to existing infrastructure or roadways not included in current or future plans.

- Potential for Greater Adverse Environmental Effects: Alternatives that would meet the purpose and need, but that would result in adverse environmental effects that could otherwise be avoided or minimized, were not carried forward for detailed analysis. These include renovation of an existing ACP that is located adjacent to areas that are environmentally sensitive (e.g., wetlands and habitats for threatened and endangered species) and subject to tidal flooding. In addition to the Army's environmental stewardship commitments, adverse impacts on adjacent habitats and the species that use these habitats would result in unnecessary exorbitant expenses to mitigate those adverse impacts.

2.2 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

The following alternatives were considered, but were not carried forward for detailed analysis in this EA because they do not meet the screening criteria outlined in Chapter 2.2.

- Alternatives that would construct a new ACP within the current footprint of an existing ACP:
  - New Construction within the ACP #1 Footprint: New construction at ACP #1 was initially considered as an alternative to meet the purpose and need because it is the Main Gate at MOTCO. However, there is no current road infrastructure at MOTCO that could facilitate the entrance to the Tidal Area from ACP #1, and construction of new roads from the ACP to the Tidal Area is not included in any of the installation's current or future planning documents. In addition, ACP #1 is located within the 100-year floodplain, and the area available for construction at ACP #1 is limited by available Army real estate (i.e., there is a lack of available land). Thus, this alternative was eliminated from further consideration.
  - New Construction within the ACP #2 Footprint: New construction at ACP #2 was initially considered as an alternative to meet the purpose and need because trucks bound for the Tidal Area currently enter the installation at this location. However, limitations imposed by the lack of available land, current gate configuration, and proximity to homes eliminated this alternative from further consideration.
  - New Construction within the ACP #3 Footprint: New construction at ACP #3 was initially considered as an alternative to meet the purpose and need; however, future development at the ACP is limited by lack of available land, by lack of access to utilities, by proximity to homes, and because it is located within the IBD ESQD arc. Thus, this alternative was eliminated from further consideration.
  - New Construction within the ACP #4 Footprint: New construction at ACP #4 was initially considered as an alternative to meet the purpose and need; however, future development at the ACP is limited by lack of available land and because it is located within the IBD ESQD arc. ACP #4 is also located within the 100-year floodplain and would require maintenance and repair of a roadway subject to tidal flooding (Waterfront Road). These actions are not required in order to meet operational

needs. Moreover, the widening and raising of the road required to prevent tidal flooding would result in adverse impacts on adjacent wetland habitats, which provide habitat for several federally listed and state-listed threatened and endangered species, and would result in unnecessary exorbitant expenses to mitigate adverse environmental impacts. Thus, this alternative was eliminated from further consideration.

- New Construction Near ACP #5 South of Port Chicago Highway: Alternative project locations for the proposed ACP near the existing ACP #5 were also considered and described in the RPMP EA (U.S. Army 2013a). One such location was an 18.5-acre site at the intersection of Port Chicago Highway and Nichols Road near the current ACP #5, south of Port Chicago Highway. However, this location on the south side of Port Chicago Highway was determined to be unacceptable after a survey of utilities identified seven existing underground pipelines that would require relocation. Relocation of existing utility infrastructure is not required in order to meet operational needs and is cost-prohibitive. Thus, this alternative was eliminated from further consideration.

- An additional alternative project location near ACP #5 south of Port Chicago Highway was considered during the planning stages of the project. This alternative location was also located near the current ACP #5, approximately 1,600 feet west of Nichols Road and on the south side of the Port Chicago Highway. This alternative would have had a reduced project footprint of approximately 17 acres, as documented in the June 2013 Addendum to the Final RPMP EA (U.S. Army 2013b). Existing underground pipelines that would require relocation are also present at this location. Relocation of existing utility infrastructure is not required in order to meet operational needs and is cost-prohibitive; therefore, this alternative was eliminated from further consideration.

2.3 NO ACTION ALTERNATIVE

CEQ regulations require analysis of a No Action Alternative in an EA to provide a benchmark, enabling decision makers to compare the magnitude of the potential environmental effects caused by the proposed action and other alternative actions. The No Action Alternative is not required to be reasonable, nor does it need to meet the purpose and need described in Section 1.3. An analysis of the No Action Alternative is required even if the agency is under a court order or legislative mandate to act.

Under the No Action Alternative, the Army would not renovate an existing ACP or construct a new ACP. ACP #2 would continue to be used for the entrance of all mission-related truck traffic into the Tidal Area and for all required inspections. Current operational inefficiencies, truck queuing, and traffic congestion would continue on Port Chicago Highway near ACP #1. There would continue to be no adequate facility to inspect trucks before they enter the installation. MOTCO would continue to fail to comply with Army ACP design and safety standards. Furthermore, the potential for terrorists and saboteurs to switch or alter cargo and to penetrate the boundary of MOTCO before being thoroughly inspected would continue. The situation could result in destruction of stored munitions, damage to ships docked at the pier for loading and

unloading ammunition, loss of lives, and destruction of buildings and facilities in the surrounding areas.

2.4 ALTERNATIVE 1: NEW CONSTRUCTION NEAR ACP #5 NORTH OF PORT CHICAGO HIGHWAY—SALLY PORT DESIGN

Alternative 1 is located near the existing ACP #5 in the eastern portion of the Tidal Area in one of the few areas on the installation with high development potential and not encumbered by the IBD ESQD arc. It is adjacent to the intersection of Port Chicago Highway and Nichols Road approximately 50 feet from the northern edge of Port Chicago Highway, and bordered by Nichols Creek to the east and open grassland fields to the west and north (Figure 2-1). There is an old schoolhouse site (Nichols School) that has previously been determined not eligible for listing in the National Register of Historic Places (NRHP) located west of Nichols Creek. Under Alternative 1, the new ACP boundary would be located west of the historical site to avoid disturbing it.

Alternative 1 is approximately 0.65 mile from the closest residence along Port Chicago Highway and approximately 0.8 mile from the closest residence along Nichols Road in the community of Bay Point. Its location along Port Chicago Highway, an arterial that bisects MOTCO, provides an efficient route for moving ammunition and general cargo onto and throughout the installation. It is reached by exiting California Highway 4 at Bay Point, and the approach takes vehicles down Port Chicago Highway and through the community of Bay Point.

Alternative 1 includes the construction and operation of a modern ACP using an entrapment system, or sally port design (Figure 2-2), to minimize the size of the overall project footprint, to control vehicle access, and to prevent the forced entry of potential threat vehicles onto the installation. A sally port is a secure entryway that often consists of a series of doors or gates that creates additional layers of security at the ACP. With the sally port design, an incoming vehicle would first be stopped by guards at a Pre-Check and Inspection Gate and then, upon security approval, the vehicle would be allowed to proceed to the sally port, which would have gates at both ends. As a vehicle enters the sally port, the first gate would close behind it, entrapping it inside the sally port. A vehicle could then be detained at this point or released to continue onto the installation with the raising of the forward gate. The sally port design would increase security at the ACP since only one vehicle would be allowed to move through at a time; one vehicle could not simply follow the vehicle ahead of it through the gate.

The entrapment system would be on both the inbound and outbound lanes of the ACP corridor with active vehicle barriers (AVBs). The sally port design would eliminate the requirements for long approach/response zones, as the ABVs would normally be in the closed position and fully controlled by guards for each vehicle passage. An existing portion of Port Chicago Highway would be incorporated into the Alternative 1 design, and an additional portion of the highway parallel to the proposed ACP location would be decommissioned and permanently closed to regular vehicle traffic. The existing pavement of the decommissioned part of the highway would remain in place to allow maintenance vehicle access to the area.

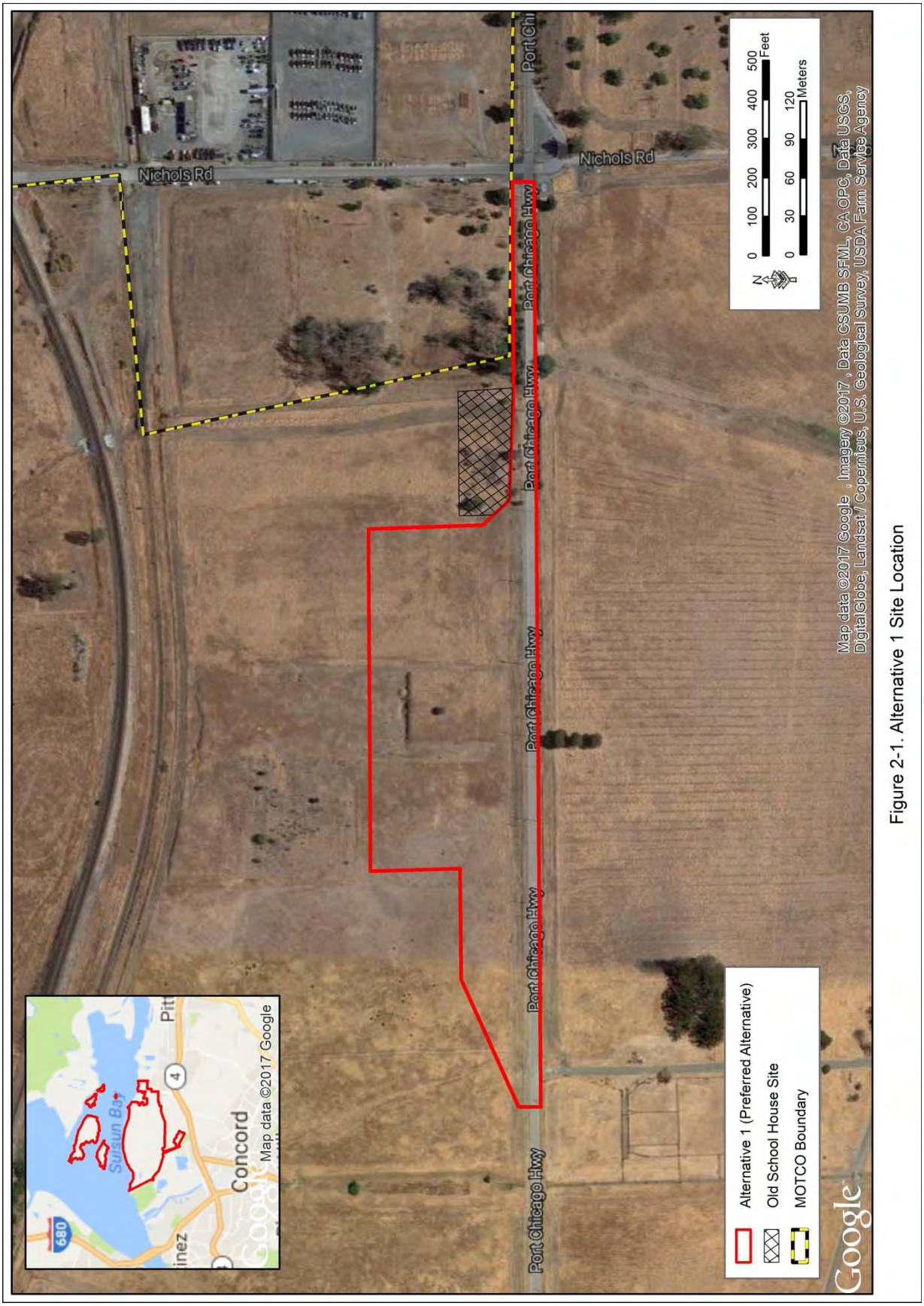

Figure 2-1. Alternative 1 Site Location

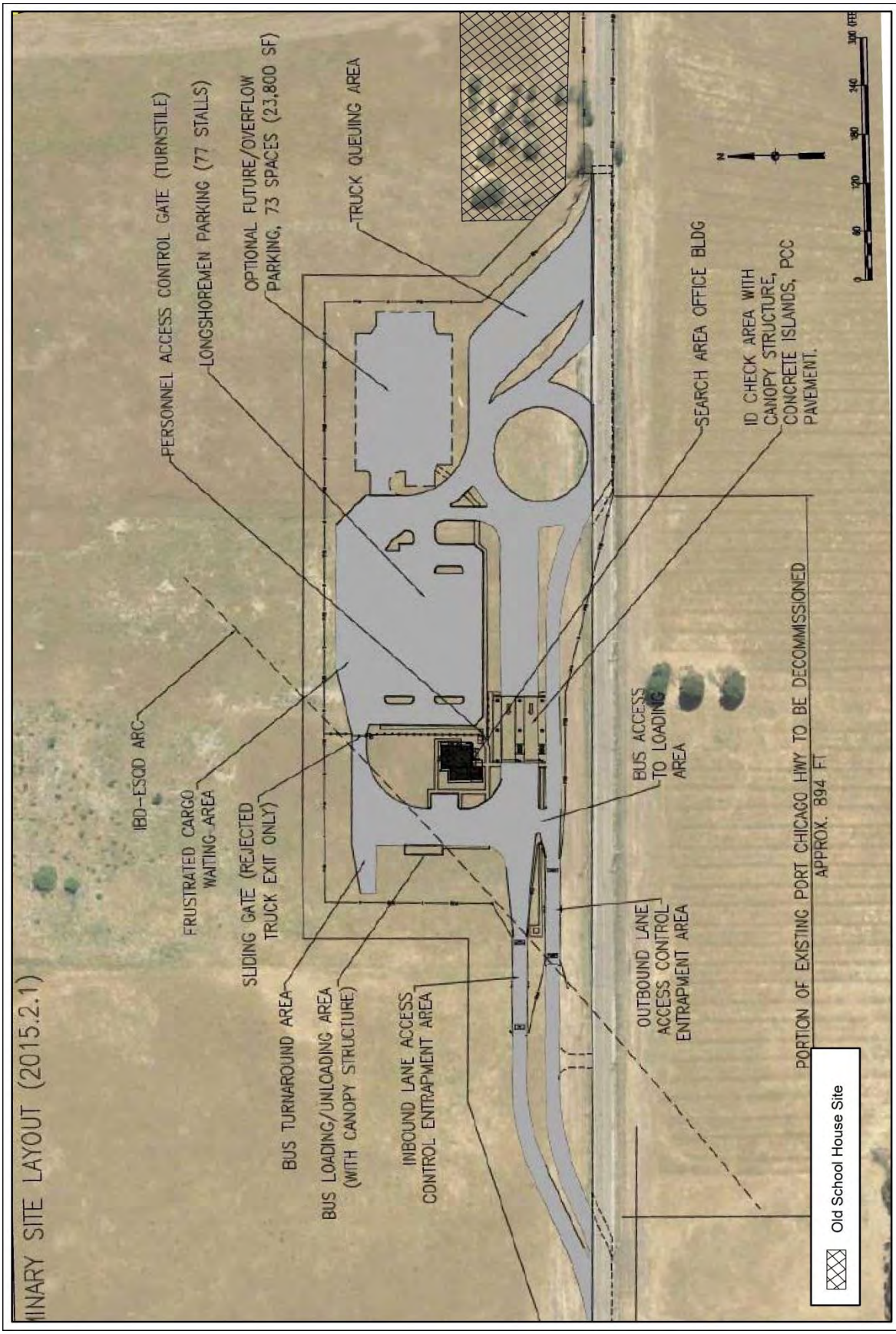

Figure 2-2. Alternative 1 Sally Port Design Layout

The new ACP road corridor alignment would be configured to provide safe vehicle routings, sufficient Speed Management Features (SMF), and queuing areas for trucks. The routing (width, turning radius, etc.) of access roads/drives in the ACP corridor has been determined using a computer vehicle routing software to ensure that all trucks can maneuver and stay on the pavement. Passive Vehicle Barriers would be installed to confine the vehicles within the ACP corridor and direct them to the entrapment areas in both the inbound and outbound lanes of the ACP.

The footprint of the new ACP would encompass approximately 8.6 acres, with an additional approximately 3.9 acres of new pavement for parking. Stevedore (POV) parking would include 74 parking spaces, and four stalls for parking government-owned vehicles (GOVs) would be located near the Search Area Office. There would also be an area reserved for future/overflow parking of approximately 70 stalls in the northeast corner of the new ACP perimeter, which would either be paved or gravel. Prior to any construction at the site, a fence would be erected around the entire project area (see Figure 2-1).

Alternative 1 would include the demolition of road signage, fencing, and an existing 25-square-foot (SF) guard booth. Alternative 1 would also include the relocation/modification of aerial communication (AT&T) and Pacific Gas and Electric Company (PG&E) power lines. One existing underground Shell trans-state pipeline on the north side of Port Chicago Highway would remain unaffected. There is no existing storm drainage system at the site. Surface drainage bio-swale and underground pipes would be utilized to route stormwater runoff from the roof of buildings and pavement to several detention areas that would then drain into existing nearby swales/Nichols Creek. Existing water, sewer, and underground telecommunications lines would be extended from the existing infrastructure to the proposed ACP. Electrical power is already present at ACP #5; however, a new transformer would be installed to meet the increased demand for electricity.

Under Alternative 1, buildings associated with the modern ACP would be constructed within an open, vacant grassland area just west of Nichols Creek. The finished site would utilize a variety of hardscape and softscape materials and design elements to integrate the function and aesthetics of the buildings, with focus on the building entries, connection points, and gathering or waiting areas. Landscaping methods in accordance with the MOTCO Facilities Design Guidelines for landscaping practices would be used. The design would incorporate local California native and locally adapted plants, and landscape elements would be designed to reduce water demand and decrease excess runoff, and would incorporate low-volume irrigation methods and xeriscaping techniques while providing landscape similar to the existing natural environment and meeting security needs and requirements. All areas disturbed through any type of construction activity would be revegetated using native grass hydro-seed or mulched using inorganic mulches (e.g., rock mulch) and planted with approved drought-tolerant, climate-appropriate native plant species.

2.5 ALTERNATIVE 2: NEW CONSTRUCTION NEAR ACP #5 NORTH OF PORT CHICAGO HIGHWAY—NON-SALLY PORT DESIGN

Alternative 2 is located within the same project area as Alternative 1 (Figure 2-3). However, Alternative 2 utilizes a different ACP design than that of Alternative 1. Specifically, Alternative 2 includes the construction and operation of a modern ACP, but would not include the sally port design element (Figure 2-4). The footprint of the non-sally port ACP under Alternative 2 would be less than half of that for Alternative 1 and would encompass approximately 4.8 acres (Figure 2-4). All construction, demolition, and utility details associated with Alternative 2 would be the same as described in Section 2.4 for Alternative 1. However, Alternative 2 would disturb the Nichols School site (Figure 2-4).

The level of security provided at the ACP would be slightly less with implementation of Alternative 2. Compared to Alternative 1, Alternative 2 would lessen the time required for traffic to clear and enter at the ACP since there would be no two-gate sally port entrapment system in place, which would result in an overall decrease in the time required to access the installation. Construction costs for Alternative 2 would be less than those for Alternative 1, since the security-added equipment associated with the sally port would not be needed. The personnel requirement associated with Alternative 2 would also be less than that for Alternative 1 because there would be no Pre-Check and Inspection Gate, which requires an additional guard.

2.6 PREFERRED ALTERNATIVE

Although the efficiency of entrance into the installation would be somewhat reduced under Alternative 1 compared to Alternative 2, the Army has identified Alternative 1 as the Preferred Alternative based on the flexibility and security it provides in support of the military mission and in consideration of the environmental impacts, which are somewhat greater in terms of permanent disturbance and impermeable surface but do not differ in terms of impacts on sensitive environmental resources, including wetlands, vegetation, wildlife habitat, and threatened and endangered species.

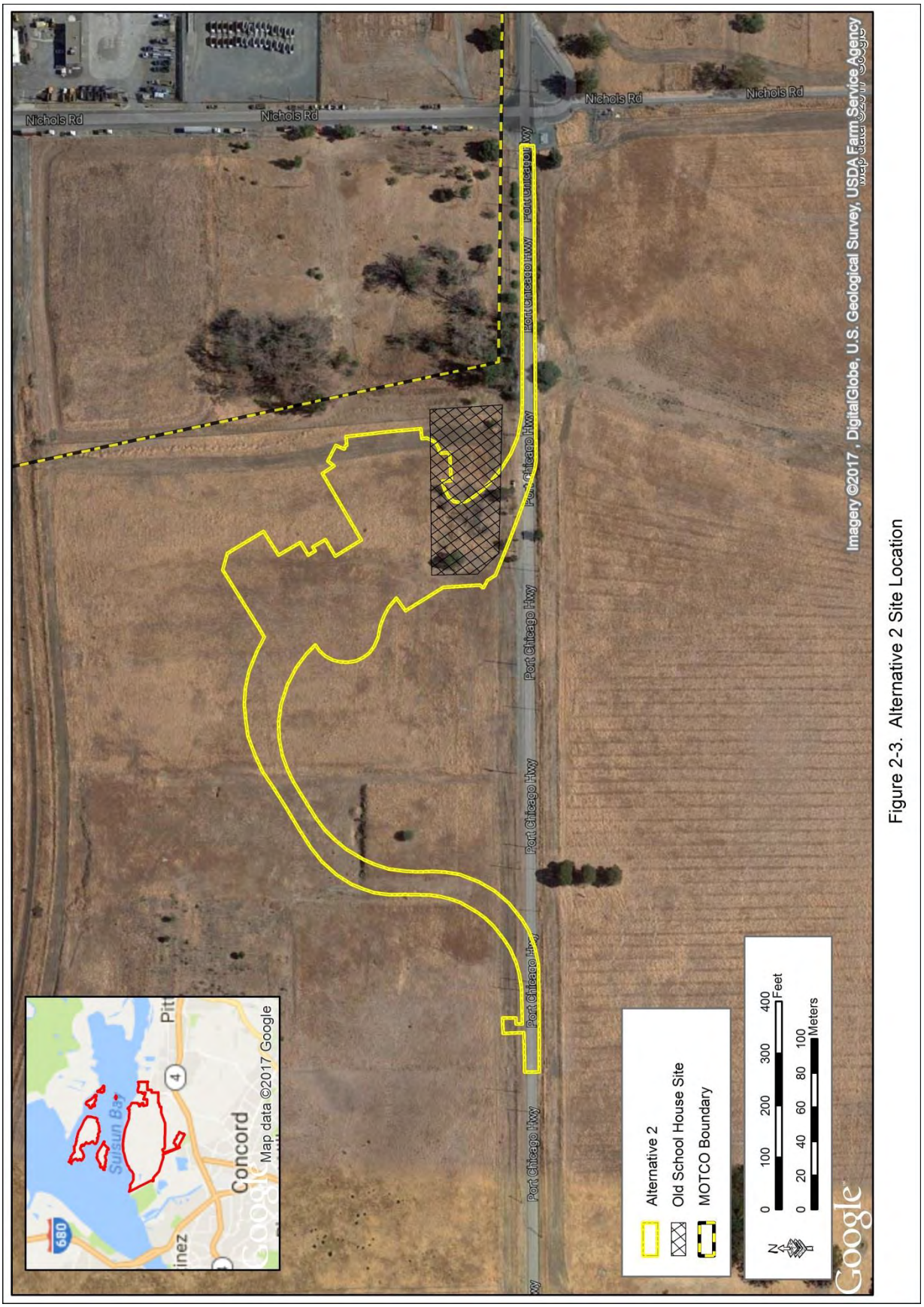

Figure 2-3. Alternative 2 Site Location

10% DESIGN NOTES:

1. The ACP layout shown on this sheet is on the north side of Port Chicago Highway. This alternative is included for review per discussion/request during the design charrette as a possible alternative to avoid relocation of two pipe lines that run along the south side of Port Chicago Highway. The ACP features included in this layout are the same as the layout shown on sheet C-120A. It is conceptual in nature and will be adjusted in accordance with required design criteria for ACP.

KEY NOTES

1. ID CHECK/SEARCH AREA (GUARD BOOTHS AND CANOPY)
2. GATE HOUSE/SEARCH OFFICE
3. OVERWATCH BOOTH
4. ACTIVE VEHICLE BARRIER (AVB)
5. GOV PARKING
6. BUS LOADING AREA
7. POV PARKING (LONGSHOREMEN SCREENING AREA)
8. PERSONNEL GATE (TURNSTILE & GUARD BOOTH)
9. REJECTED VEHICLE TURNAROUND
10. PASSIVE VEHICLE BARRIER (PVB)
11. SECURITY FENCE WITH PVB CABLE
12. PERIMETER SECURITY FENCE (EXISTING)
13. PORTION OF PORT CHICAGO HIGHWAY TO BE CLOSED OFF (GATED FOR EMERGENCY USE ONLY)
14. OLD SCHOOL HOUSE SITE

Old School House Site

N

0 100 200 300 400 Feet

0 20 40 60 80 100 Meters

Figure 2-4. Alternative 2: Non-Sally Port Design

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

NEPA and associated regulations promulgated in 40 CFR Parts 1500-1508 and 32 CFR 651 require an EA to discuss impacts in proportion to their significance and present only enough discussion of other than significant issues to show why more study is not warranted. In the affected environment discussion in this chapter, the general conditions and nature of the environment potentially affected by the action alternatives and No Action Alternative are discussed. The area of potential effects (APE) includes all areas potentially affected directly or indirectly by the action alternatives. Depending on the resource analyzed, the area of potential effect varies in size and ranges from the project footprint to a regional area. For example, the area of potential effect could be limited to the action alternative site when analyzing soil effects, or the area could be regional in nature and include all of Contra Costa County when considering air quality effects. These relevant baseline conditions establish the environmental setting against which the evaluation of potential environmental impacts are presented in the environmental consequences discussions.

Impacts (consequence or effect) can be either beneficial or adverse and can be either directly related to the action or indirectly caused by the action. Direct effects are caused by the action and occur at the same time and place (40 CFR § 1508.8[a]). Indirect effects are caused by the action and are later in time or further removed in distance but are still reasonably foreseeable (40 CFR § 1508.8[b]). As discussed in this chapter, the alternatives may create temporary (lasting the duration of the project), short-term (up to 3 years), long-term (3 to 10 years following construction), or permanent effects.

Whether an impact is significant depends on the context in which the impact occurs and the intensity of the impact (40 CFR § 1508.27). The context refers to the setting in which the impact occurs and may include society as a whole, the affected region, the affected interests, and the locality. Impacts on each resource can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis, the intensity of impacts would be classified as negligible, minor, moderate, or major. The intensity thresholds are defined as follows:

- Negligible: A resource would not be affected or the impacts would be at or below the level of detection, and changes would not be of any measurable or perceptible consequence.
- Minor: Impacts on a resource would be detectable, although the impacts would be localized, small, and of little consequence to the sustainability of the resource. Mitigation measures, if needed to offset adverse impacts, would be simple and achievable.
- Moderate: Impacts on a resource would be readily detectable, long-term, localized, and measurable. Mitigation measures, if needed to offset adverse impacts, would be extensive and likely achievable.
- Major: Impacts on a resource would be obvious and long-term, and would have substantial consequences on a regional scale. Mitigation measures to offset the adverse impacts would be required and extensive, and success of the mitigation measures would not be guaranteed.

The following discussions describe and, where possible, quantify the potential impacts of each alternative on the resources within or near the project area. Potential impacts are quantified wherever possible and discussed at a level of detail necessary to determine the significance of the impacts. Where appropriate, the implementation of Best Management Practices (BMPs) and Standard Operating Procedures (SOPs) that minimize potential environmental impacts and any additional practical mitigation to minimize impacts are identified. Cumulative effects of the proposed action and alternative when considering past, present, and foreseeable future actions are presented in Chapter 4.

3.1 EARTH RESOURCES

3.1.1 Existing Conditions

3.1.1.1 Soils and Topography

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) has mapped five soil types at MOTCO in the vicinity of the proposed ACP site. Figure 3-1 depicts the distribution of soils relative to the area of potential development being analyzed under the action alternatives in this EA.

In general, the Tidal Area is largely composed of silty clay and saline muck soils that are very deep and poorly drained. Because these soils have poor drainage, they are subject to freshwater flooding and ponding following heavy rainfall and surface runoff from the adjacent upland areas. The soils located on hillslopes at MOTCO range from somewhat excessively drained to moderately well-drained.

The soil erosion factor (K) indicates a soil's susceptibility to erosion. At MOTCO, K factors range from 0.02 to 0.69. Typically, the higher the K factor, the more susceptible the soil is to erosion by water. For example, soils with a K factor less than 0.2 have low erosion potential; soils with a K factor of 0.2 to 0.4 have moderate erosion potential; and soils with a K factor greater than 0.4 have high erosion potential.

3.1.1.2 Seismic Conditions

MOTCO lies within one of the most seismically active regions of the United States. There are four seismic zones in the San Francisco Bay area; MOTCO is in Zone 4, which has the highest potential for earthquake damage. Based on estimates from geologists, the system of faults in Contra Costa County has a probable earthquake magnitude of between 5.0 and 8.5 on the Richter scale (Contra Costa County 2005). The Concord-Green Valley Fault is located just east of MOTCO (Contra Costa County 2002). In addition to bodily injury and property damage, seismic activity associated with faults can cause geologic hazards such as liquefaction and landslides. At MOTCO, there is high liquefaction probability for portions of the Tidal Area with artificial fill Quaternary deposits. There is a moderate liquefaction probability for areas of the Tidal Area with Quaternary deposits of bay mud and alluvial deposits. Inundation due to related tsunamis is also a hazard at MOTCO.

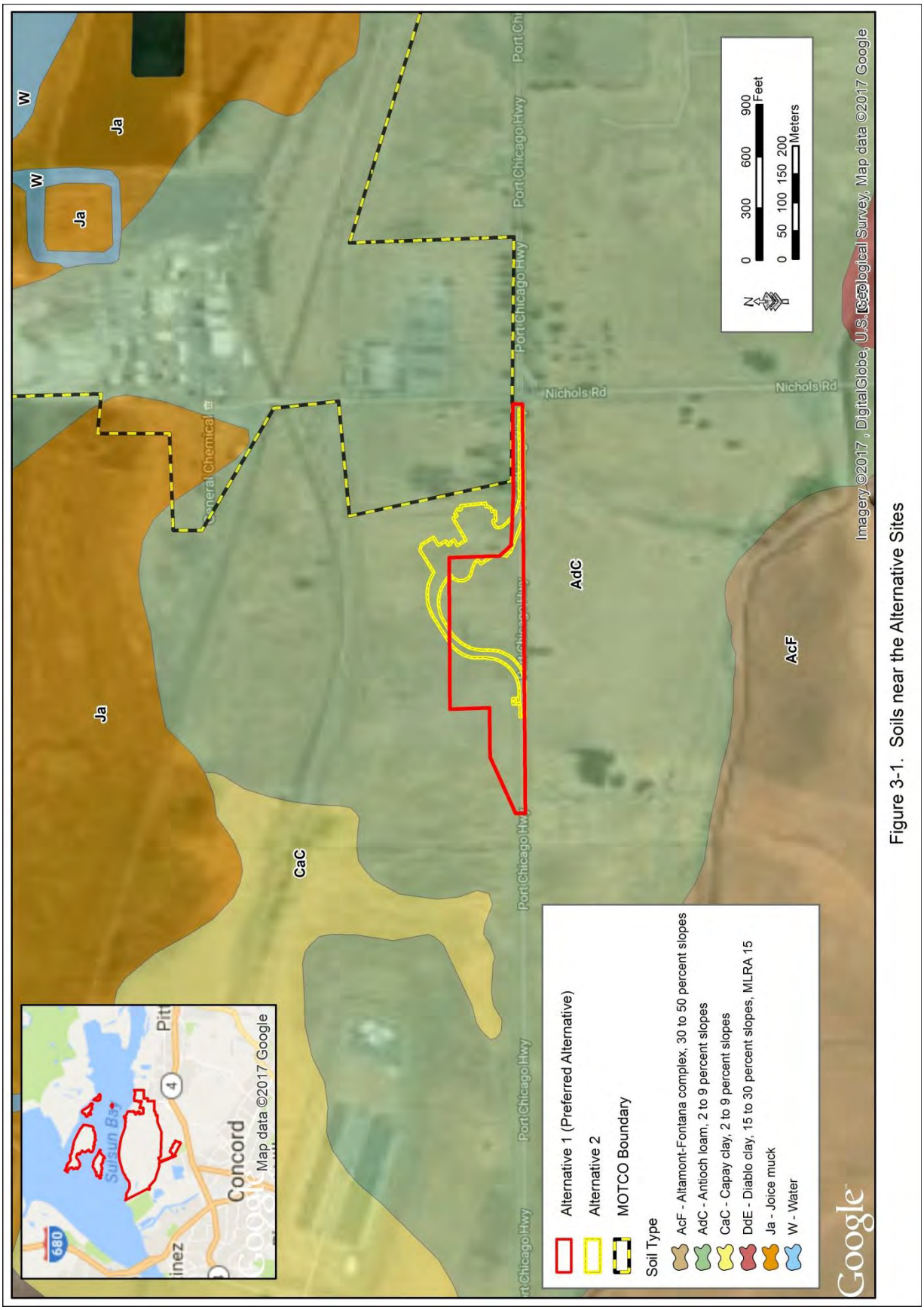

Figure 3-1. Soils near the Alternative Sites

3.1.1.3 Mineral Resources

Nearly 65 percent of MOTCO's Tidal Area is under split estate rather than simple fee ownership. For the spilt estate lands, the surface estate is federally owned, and the subsurface mineral estate is privately owned. Only one mineral estate is currently under development, an active natural gas field on Ryer Island operated by Veneco, Inc. (California Division of Oil, Gas, and Geothermal Resources [DOGGR] 2003).

Future requests for lease agreements for mineral exploration, development, and production and surface access for such purposes to privately owned mineral estate underlying MOTCO would be subject to a number of requirements including DoD and Army safety and security requirements, California DOGGR regulatory requirements, and NEPA. Development of MOTCO split estate lands by the Army could result in competing or infringement of development and access rights held by the private landowner(s) of the mineral estate, depending on the title deed and conveyance parameters. The project area for this EA is sited in an area of MOTCO where mineral rights below 500 feet are privately held without surface entry rights (MOTCO 2011a).

3.1.2 Environmental Consequences

3.1.2.1 Alternative 1 (Preferred Alternative)

Construction of the proposed ACP would result in minor, short-term soil impacts, as increased localized potential for soil erosion would occur at the project site. A total of approximately 12.5 acres of Antioch loam soils, 2 to 9 percent slopes, with a moderate erosion potential (K = 0.43), would be disturbed. During project construction, erosion potential would be minimized through adherence to construction National Pollutant Discharge Elimination System (NPDES) permit requirements. Construction disturbances greater than 1 acre require coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity from the San Francisco Bay Regional Water Quality Control Board (RWQCB), which requires development of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP includes erosion and sediment control BMPs aimed at confining sedimentation to the construction site through the use of silt fencing, swales, rock dams, etc., and monitoring. The SWPPP also addresses petroleum, oil, and lubricants (POL) and hazardous materials at the construction site to reduce the potential for soil contamination and address any spills or breaches in the protective systems.

There is no existing storm drainage system at the site. Surface drainage bio-swales and underground pipes would be utilized to route stormwater runoff from the roof of buildings and pavement to several detention areas that would then drain into existing nearby swales/Nichols Creek. Within the project footprint, a pond bio-swale area would be sized to handle standard anticipated rainfall and infiltrate rainwater into the ground within a 48-hour period after a storm event. Native plantings would be included in the bio-swale design to increase sediment and pollutant removal from runoff. In addition to the bio-swale, a dry creek bed acting as a drainage conduit for the site would be created and graded to drain into a detention basin where energy disbursement of suspended solids would occur prior to the discharge of any water from the site.

During the design phase for the proposed ACP, LEED standards would be incorporated into the site layout and facility designs to ensure that long-term erosion issues are not caused by the new construction. All new construction at MOTCO must also adhere to Zone 4 Uniform Building Codes in accordance with seismic conditions.

To address split estate at the site, the Army is evaluating the merits of acquiring the subsurface mineral rights. Alternatively, directional drilling options may allow for concurrent use of the surface estate by the Army and mineral estate by a private interest.

3.1.2.2 Alternative 2

Alternative 2 would have similar impacts on earth resources as Alternative 1 (Preferred Alternative); however, construction of the non-sally port design ACP would only disturb a total of approximately 4.8 acres of Antioch loam soils.

3.1.2.3 No Action Alternative

Under the No Action Alternative, no new construction or construction-related impacts would occur.

3.2 WATER RESOURCES

3.2.1 Existing Conditions

3.2.1.1 Surface Water

The majority of MOTCO's Tidal Area is adjacent to Suisun Bay, and, as such, surface water within the Tidal Area is predominantly brackish. In general, any area within the Tidal Area that is less than 9 feet mean sea level (MSL) is subject to tidal flooding. The sloughs and ditches found within the salt marshes in the Tidal Area are also brackish. Brackish water from Suisun Bay inundates the tidal marshes during high tides via a network of natural and man-made channels. Extensive ditching and berms located along ditches have results in muted tidal inundation in most of MOTCO's marshes. In addition, much of the natural drainage pattern and tidal influence have been altered by the construction of roadways, rail lines, and the Contra Costa Canal, which traverse the Tidal Area.

Some freshwater features are also present within the Tidal Area at MOTCO. These features flow northward via natural creeks, man-made ditches, canals, and sloughs into Suisun Bay (Figure 3-2). Much of the surface water flow must also pass through numerous culverts, tide gates, and water control structures present throughout the Tidal Area.

A portion of Nichols Creek, which flows across the southeastern corner of MOTCO's Tidal Area and onto General Chemical property, would border the new ACP to the east (Figure 3-2). Nichols Creek also flows in culverts under a portion of Port Chicago Highway immediately east of the site of new construction for the ACP. In general, Nichols Creek is a slow-moving, freshwater creek and provides a small area of freshwater marsh habitat dominated by California bulrush (*Schoenoplectus californicus*) and broad-leaved cattail (*Typha latifolia*). Portions of the creek at MOTCO are fenced to exclude cattle.

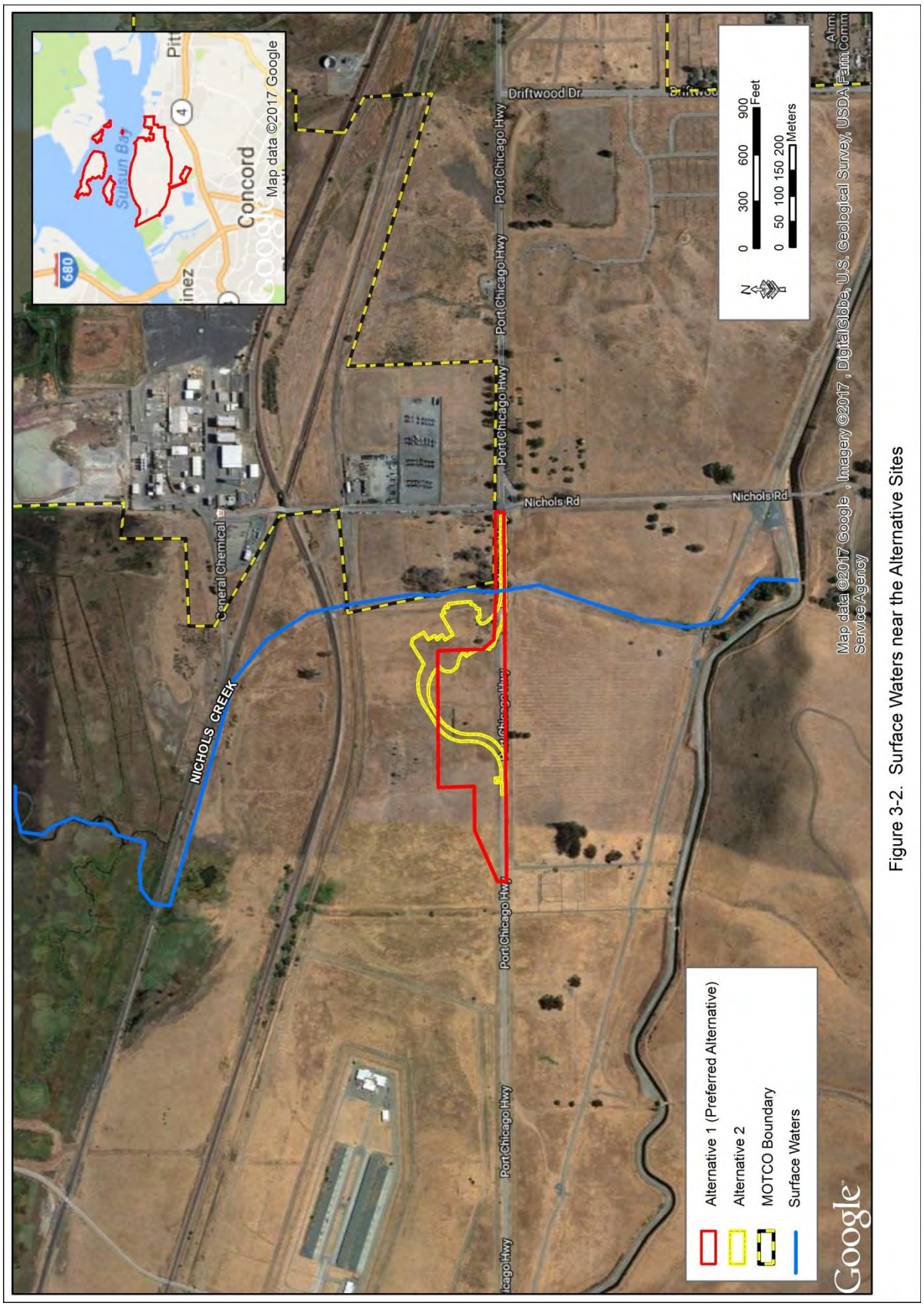

Figure 3-2. Surface Waters near the Alternative Sites

An installation-wide SWPPP addresses individual NPDES permit requirements for the ongoing activities that occur at MOTCO. The SWPPP consists of three major components: stormwater monitoring, BMP implementation, and site compliance evaluations. The main objective of the installation-wide SWPPP is to provide information as to how MOTCO controls the discharge of pollutants from stormwater and to provide practical guidance to assist with implementing the SWPPP (Army 2017).

3.2.1.2 Groundwater

Groundwater in the vicinity of MOTCO is used for drinking water, irrigation, and industrial processing. Coastal groundwater in the area is often degraded through the intrusion of saltwater. MOTCO does not operate or maintain groundwater wells for potable or industrial use. Water supplies at MOTCO are provided by private utilities in the area that pump water into storage reservoirs within the installation boundary.

3.2.1.3 Wetlands

Wetlands within the Tidal Area at MOTCO are predominantly brackish by virtue of their connections to Suisan Bay. There are small areas of palustrine wetlands, which only receive freshwater inflow, like those near the proposed ACP site; however, because of the saline soils and poor drainage, these wetlands often support brackish vegetation species. The National Wetland Inventory (NWI) maps for MOTCO indicate that approximately 3,175 acres of potential wetlands occur on the entire installation, including 404 acres of estuarine subtidal wetlands, 2,687 acres of intertidal estuarine wetlands, and 84 acres of palustrine wetlands. The potential wetlands in the vicinity of the alternative sites are depicted in Figure 3-3. No previously mapped NWI wetlands are present at either alternative site.

The State of California has a policy of no net loss of wetlands and requires that all impacts on wetlands be mitigated under Section 401, State of California Water Quality Certification of U.S. Army Corps of Engineers (USACE) permits, of the Clean Water Act. The USACE has jurisdiction over all of MOTCO's wetlands that are hydrologically connected to Suisun Bay, and may or may not have jurisdiction over isolated palustrine wetlands (U.S. Environmental Protection Agency [USEPA] and USACE 2008). The USACE requires Section 404 permitting for jurisdictional wetlands and waters of the U.S., or those with a significant nexus to navigable waters; hence the state may assert Section 401 jurisdiction over some waterbodies not subject to Section 404 USACE permit jurisdiction. A formal jurisdictional delineation would be needed to assess the extent of federal and state jurisdiction; however, because there are no potential wetlands within the proposed project area (see Figure 3-3), a jurisdictional delineation has not been conducted.

3.2.1.4 Floodplains

The 100-year floodplain represents those areas that could be inundated by high floodwater levels expected to occur once every 100 years from a combination of heavy rainfall, high tides, and storm surges. Development within the 100-year floodplain is constrained by regulatory requirements related to safety and environmental concerns. Executive Order (EO) 11988,

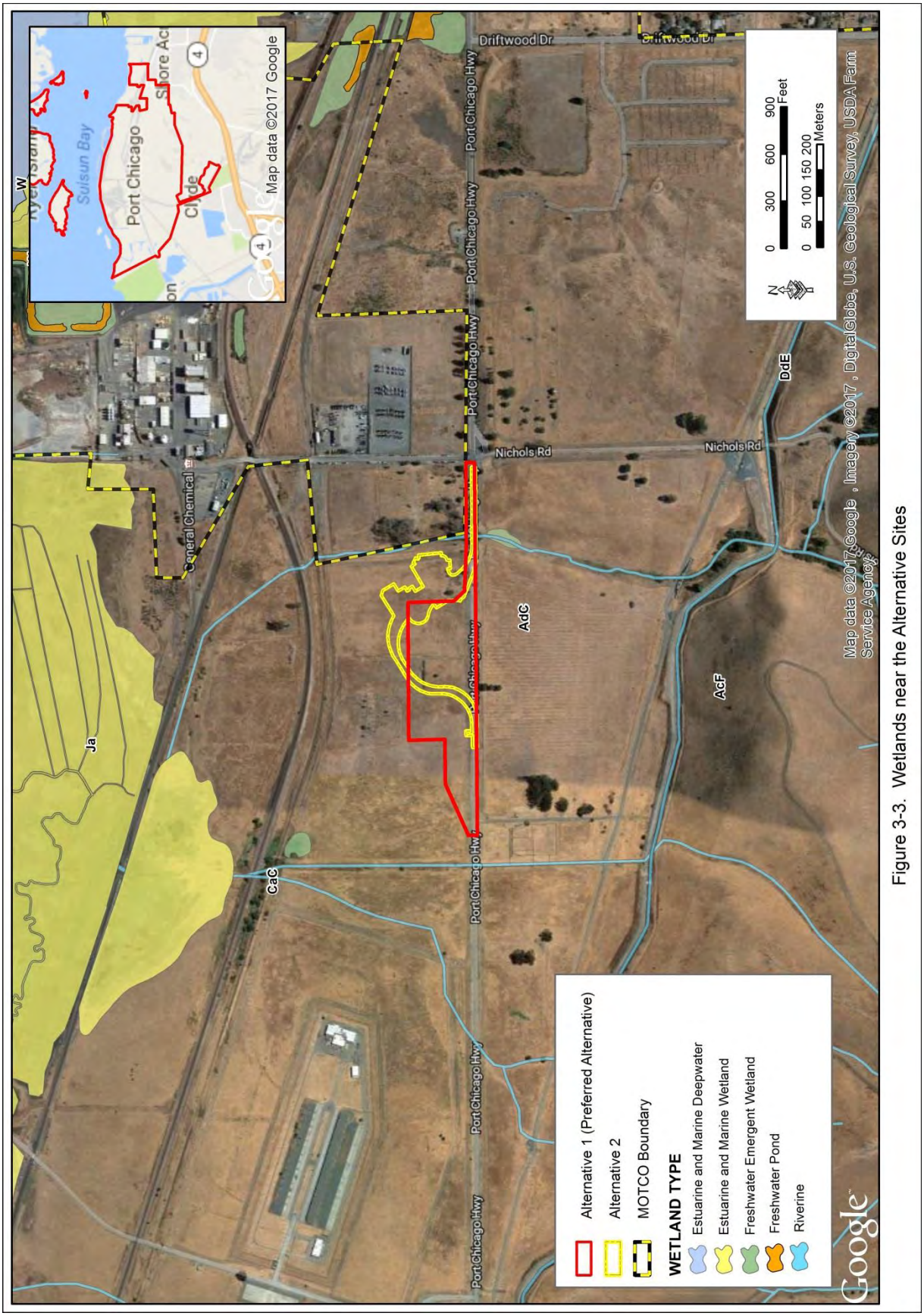

Figure 3-3. Wetlands near the Alternative Sites

Floodplain Management, directs federal agencies to provide leadership in avoiding direct or indirect development of floodplains, as well as to restore and preserve the natural and beneficial values of floodplains. Engineering methods can be used to reduce potential impacts from development in floodplains; however, the engineering costs involved with development in floodplains are often prohibitive.

On January 30, 2015, the president signed EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, which amended EO 11988. Once implemented by federal agencies, the Federal Flood Risk Management Standard is intended to reduce the risk and cost of future flood disasters by ensuring that federal investments in and affecting floodplains are constructed to better withstand the impacts of flooding. Neither the DoD nor Army has updated their regulations and procedures to incorporate the amendments from EO 13690. The Army must comply with EO 11988 until DoD and Army update their regulations and procedures to incorporate the amendments from EO 13690, which is not expected prior to the finalization of this EA.

Portions of MOTCO's Tidal Area were mapped by FEMA in 2015 (Figure 3-4). A considerable portion of MOTCO land along the southern border of Suisun Bay is located in the 100-year floodplain (Zone AE); however, neither alternative site is located within the 100-year floodplain (Figure 3-4).

3.2.2 Environmental Consequences

3.2.2.1 Alternative 1 (Preferred Alternative)

Construction of the proposed ACP and support facilities would follow USEPA Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act (USEPA 2009a). Since the construction disturbances would be in excess of 1 acre, the Army would obtain the required NPDES permit, including development of a site-specific SWPPP and use of BMPs. BMPs would include measures to reduce stormwater runoff and the transport of soils from the construction site to adjacent waterbodies and management measures that reduce the potential for contaminants to enter surface or groundwater supplies.

In addition to BMPs, a pond bio-swale area would be constructed at the site and sized to handle standard anticipated rainfall and infiltrate rainwater into the ground within a 48-hour period after a storm event. Native plantings would be included in the bio-swale design to increase sediment and pollutant removal from runoff. A dry creek bed acting as a drainage conduit for the site would be graded to drain into a detention basin where energy disbursement of suspended solids would occur prior to the discharge of any water from the site. Surface drainage bio-swale and underground pipes would be utilized to route stormwater runoff from the roof of buildings and pavement at the ACP to several detention areas that would then drain into existing nearby swales/Nichols Creek. No impacts on Nichols Creeks would be anticipated, and the cattle exclusion fence along portions of the creek would remain in place for the protection of water quality. As such, potential impacts on surface water would be minimized.

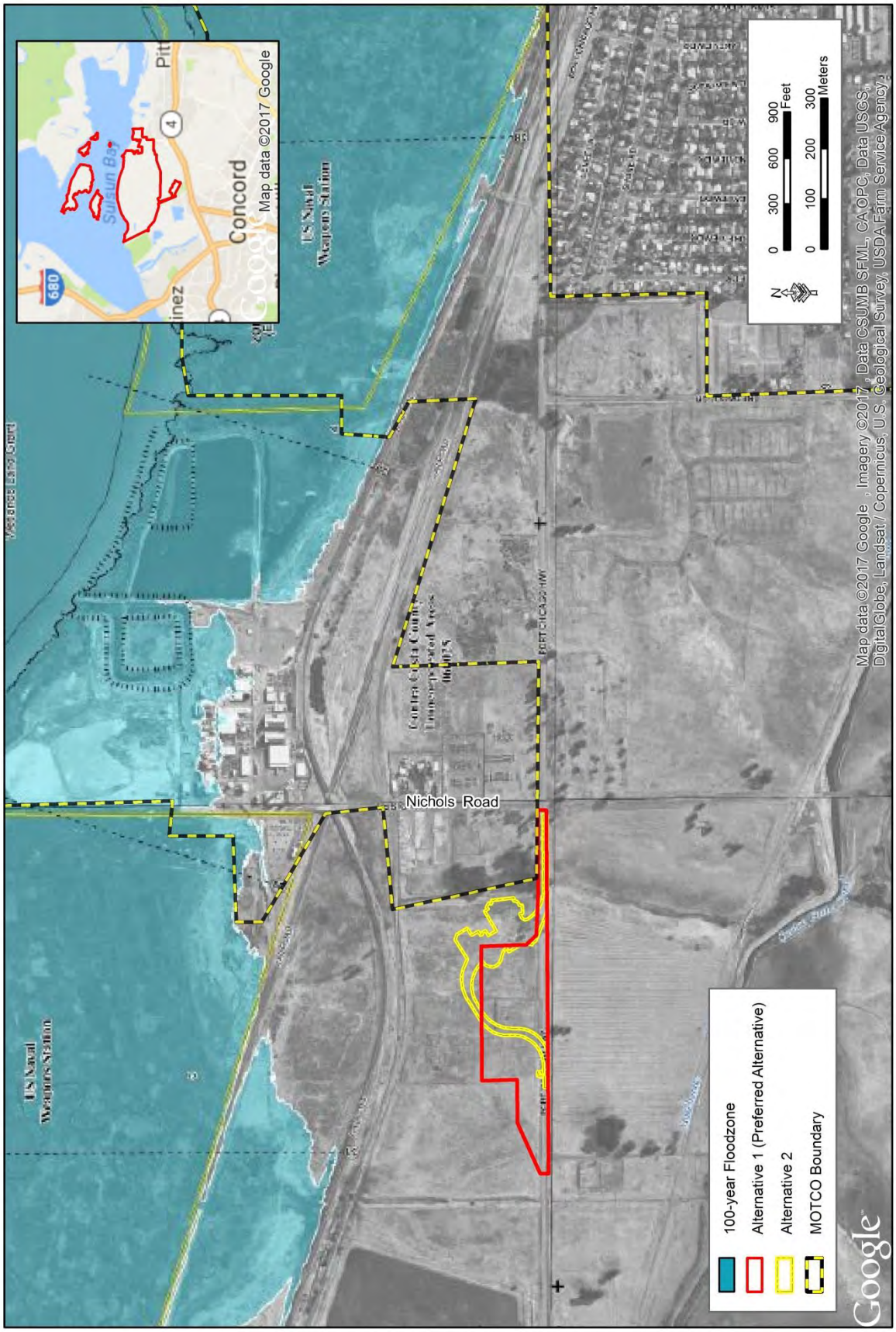

Figure 3-4. Floodplains near the Alternative Sites

As previously mentioned, MOTCO does not operate or maintain groundwater wells for potable or industrial use. Water is provided by private utilities that pump water into storage reservoirs within the installation boundary, and the Preferred Alternative would have a negligible effect on MOTCO's water demand or groundwater demand in the region. The Preferred Alternative is not located within a wetland area or the 100-year floodplain; the site is located in an upland area that supports non-native annual grasslands. Therefore, no impacts on wetlands or floodplains are anticipated. Overall, there would be negligible impacts on water resources at MOTCO as a result of implementation of the Preferred Alternative.

3.2.2.2 Alternative 2

Alternative 2 would have similar impacts on water resources as Alternative 1 (Preferred Alternative).

3.2.2.3 No Action Alternative

Implementation of the No Action Alternative would not result in impacts on water resources. A new ACP would not be constructed, and existing management programs would continue to provide for the protection and maintenance of surface and groundwater quality. ACP #1 and ACP #2 would continue to be used for truck access to MOTCO. ACP #1 is located within the 100-year floodplain, and adjacent streams currently cause flooding near the ACP and Visitor Control Center (VCC). Under the No Action Alternative, flooding would continue at ACP #1, as would traffic delays and backups as a result of flooding.

3.3 AIR QUALITY

3.3.1 Existing Conditions

3.3.1.1 National Standards

The USEPA established National Ambient Air Quality Standards (NAAQS) for specific pollutants determined to be of concern with respect to the health and welfare of the general public. Ambient air quality standards are classified as either "primary" or "secondary." The major pollutants of concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$) and lead (Pb). NAAQS represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect the public health and welfare.

Areas that do not meet these NAAQS standards are called non-attainment areas; areas that meet both primary and secondary standards are known as attainment areas. The Federal Conformity Final Rule (40 CFR Parts 51 and 93) specifies criteria and requirements for conformity determinations of federal projects. The Federal Conformity Rule was first promulgated in 1993 by the USEPA, following the passage of Amendments to the Clean Air Act in 1990. The rule mandates that a conformity analysis be performed when a federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more NAAQS.

In addition to the ambient air quality standards for pollutant criteria, national standards exist for hazardous air pollutants (HAPs). The National Emission Standards for Hazardous Air Pollutants (NESHAP) regulate 188 HAPs based on available control technologies (40 CFR Parts 61 and 63). HAPs include compounds such as benzene, which is found in gasoline. The majority of HAPs are volatile organic compounds (VOCs).

3.3.1.2 California Standards

In addition to developing a State Implementation Plan (SIP) for ensuring NAAQS are achieved and maintained within a state, individual states may also establish their own ambient air quality standards. The California Health and Safety Code, Section 39606, authorizes the California Air Resources Board (CARB) to set ambient air pollution standards in consideration of public health, safety, and welfare. The CARB makes area designations for 10 pollutants: O_3, PM_{10}, $PM_{2.5}$, CO, NO_2, SO_2, sulfates, Pb, hydrogen sulfide, and visibility reducing particles. The State of California also maintains ambient air quality standards for vinyl chloride, sulfates, and hydrogen sulfides.

MOTCO is located in the San Francisco Bay Area, which the USEPA has designated federal attainment area for CO, SO_2, and Pb standards; a marginal federal attainment area for the O_3 standard; and a federal nonattainment area for $PM_{2.5}$. Air quality at MOTCO is regulated by the USEPA, CARB, and locally by the Bay Area Air Quality Management District (BAAQMD). Table 3-1 lists the NAAQS enforced by the USEPA, the state's air quality standards enforced by CARB, and the air quality status for these standards within the San Francisco Bay Area.

Table 3-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]	
		Concentration	Status	Concentration[3]	Status
Ozone (O_3)	8 hour	0.070 ppm	N	0.070 ppm	N[4]
	1 hour	0.09 ppm	N	-	-
Carbon Monoxide (CO)	8 hour	9 ppm	A	9 ppm	A[5]
	1 hour	20 ppm	A	35 ppm	A
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	A	0.100 ppm[6]	U
	Annual arithmetic mean	0.30 ppm	A	0.053 ppm	A
Sulfur Dioxide (SO_2)	24 hour	0.04 ppm	A	0.14 ppm	A
	1 hour	0.25 ppm	A	0.075 ppm	A
	Annual arithmetic mean	-	-	0.30 ppm	A
Particulate Matter (PM_{10})	Annual arithmetic mean	20 µg/m^3	N	-	-
	24 hour	50 µg/m^3	N	150 µg/m^3	U
Particulate Matter ($PM_{2.5}$)	Annual arithmetic mean	12 µg/m^3	N	12 µg/m^3	A[7]
	24 hour	-	-	35 µg/m^3	N[8]

Table 3-1, continued

Pollutant	Averaging Time	California Standards[1]		National Standards[2]	
		Concentration	Status	Concentration[3]	Status
Lead (Pb)[9]	30 day average	1.5 µg/m^3	A	-	-
	Calendar quarter	-	-	1.5 µg/m^3	A
	Rolling 3 month average	-	-	0.15 µg/m^3	A
Sulfates	24 hour	25 µg/m^3	A	-	-
Hydrogen Sulfide	1 hour	0.03 ppm	U	-	-
Vinyl Chloride	24 hour	0.010 ppm	No information available	-	-
Visibility Reducing Particles	8 hour (1000 to 1800 Pacific Standard Time)	See footnote 10	U	-	-

A = Attainment, N = Nonattainment, U = Unclassified

Notes:

[1]California standards for O_3, CO, SO_2, NO_2, PM_{10}, and Visibility Reducing Particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour, or 24-hour average (i.e., all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. In particular, measurements are excluded that CARB determines would occur less than once per year on average.

[2]National standards shown are the primary standards designed to protect public health. National standards other than for O_3, particulates (PM_{10}, and $PM_{2.5}$), and those based on annual averages are not to be exceeded more than once a year. The 1-hour O_3 standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than 1. The 8-hour O_3 standard is attained when the 3-year average of the 4th highest daily concentrations is 0.075 parts per million (ppm) (75 parts per billion [ppb]). The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 micrograms per cubic meter (µg/m^3). The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of the 98th percentiles is less than 35 µg/m^3. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual averages spatially averages across officially designed clusters of sites falls below the standard.

[3]NAAQS are set by the USEPA at levels determined to be protective of public health with an adequate margin of safety.

[4]Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standards additionally remain in effect in some areas. Revocation of the previous (2008) O_3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

[5]In April 1998, the San Francisco Bay Area was re-designated to attainment for the national 8-hour CO standard.

[6]To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

[7]Revised designation (2012 standard), effective April 7, 2015. Additional air quality designations and a technical amendment were issued to correct inadvertent error in the air quality designations for the 2012 primary annual fine particle ($PM_{2.5}$) NAAQS.

[8]USEPA lowered the 24-hour $PM_{2.5}$ standard from 65 µg/m^3 to 35 µg/m^3 in 2006. USEPA designated the Bay Area as nonattainment of the $PM_{2.5}$ standard on October 8, 2009. The effective date of the designation is December 14, 2009.

[9]CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure below which there are no adverse health effects determined.

[10]Statewide visibility reducing particles (VRP) standard: particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Bay Area Air Quality Management District

California is divided into 15 Air Basins, or Districts, based on meteorological and geographic conditions and, where possible, jurisdictional boundaries such as county lines. The BAAQMD includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, as well as the western portion of Solano County, and the southern portion of Sonoma County. The location for the proposed ACP is in Contra Costa County and so falls within jurisdiction of the BAAQMD. The portion of the BAAQMD that includes MOTCO has been designated as a federal attainment area for PM_{10}, SO_2, and Pb standards; a marginal federal nonattainment area for the O_3 standard; and a federal nonattainment area for 24-hour $PM_{2.5}$ (BAAQMD 2014). The BAAQMD was designated attainment for CO in 1998 and remains a maintenance area. It has also been designated as a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$.

The most recent BAAQMD ozone plan prepared in response to federal air quality planning requirements is the *2005 Ozone Strategy*. To fulfill federal air quality planning requirements for $PM_{2.5,}$ the BAAQMD adopted the $PM_{2.5}$ 2012 emissions inventory in November 2012. The inventory was submitted to the CARB for inclusion in the California SIP.

Conformity Requirements

A conformity analysis is the process used to determine whether a federal action meets the requirements of the General Conformity Rule. The General Conformity Rule prohibits any federal action that does not conform to the applicable air quality attainment plan or SIP and applies to areas designated as nonattainment or maintenance from NAAQS. It requires the responsible federal agency to evaluate the nature of a proposed action and associated air pollutant emissions and calculate emissions that may result from the implementation of the proposed action. If the emissions exceed established limits, known as *de minimis* thresholds, the proponent is required to perform a conformity determination and implement appropriate mitigation measures to reduce air emissions. A project is exempt from the conformity rule if the total net project-related emissions (construction and operation) are less than *de minimis* thresholds.

The proposed action would be located in the BAAQMD and the general conformity requirements apply to the O_3 precursors VOCs and nitrogen oxides (NO_X); CO, $PM_{2.5}$, and SO_2, which is considered a $PM_{2.5}$ precursor. In accordance with the air conformity requirements, the applicable *de minimis* thresholds are presented in Table 3-2.

The air quality analysis for this EA refers exclusively to regulatory requirements and air impacts in the BAAQMD, as the assumption is made that all project-related trucks, POVS, and equipment would stay within this district while performing project-related work. Air quality impacts in Section 3.3.2 were assessed by comparing emissions generated by the construction and operation of the proposed ACP to the abovementioned thresholds. The construction and operation of the proposed ACP represent the additive short-term net change in emissions at MOTCO as compared to the already existing operational emissions.

Table 3-2. General Conformity de minimis Thresholds (tons/year)

	VOCs	CO[1]	NOx	SO_2[2]	PM_{10}	$PM_{2.5}$
Applicable *de minimis* Thresholds	100	100	100	100	NA	100

Source: 40 CFR Section 93.153
Notes:
[1]CO is included because the BAAQMD is a maintenance area for CO.
[2]SO_2 is included as a potential precursor for $PM_{2.5}$ formation.

3.3.1.3 Greenhouse Gases and Climate Change

A greenhouse gas (GHG) is a gas emission that traps heat in the atmosphere. GHG emissions occur from natural processes and human activities. Scientific evidence indicates a trend of increasing global temperature over the past century due to an increase in GHG emissions from human activities. The climate change associated with this global warming is predicted to produce negative economic and social consequences across the globe.

GHGs include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), fluorinated gases including chlorofluorocarbons (CFC) and hydrochlorofluorocarbons (HFC), and halons, as well as ground-level O_3 (California Energy Commission 2007). The major GHG-producing sectors in society include transportation, utilities (e.g., coal and gas power plants), industry/manufacturing, agriculture, and residential. End-use sector sources of GHG emissions include transportation (40.7 percent), electricity generation (22.2 percent), industry (20.5 percent), agriculture and forestry (8.3 percent), and other (8.3 percent). The main sources of increased concentrations of GHG due to human activity include the combustion of fossil fuels and deforestation (CO_2), livestock and rice farming, land use and wetland depletions, landfill emissions (CH_4), refrigeration system and fire suppression system use and manufacturing (CFC), and agricultural activities, including the use of fertilizers (California Energy Commission 2007).

MOTCO maintains a permit, B2769, issued by BAAQMD, for the operation of stationary sources of air emissions. The permit covers nine permitted and two exempt sources, including emergency generators, a fixed fuel storage tank, and a piece of woodworking equipment.

<u>GHG Guidelines</u>

The CEQ drafted guidelines for determining meaningful GHG decision-making analysis. The CEQ guidance states that if the project would be reasonably anticipated to cause direct emissions of 25,000 metric tons (27,557 U.S. tons) or more of CO_2 GHG emissions on an annual basis, agencies should consider this a threshold for decision makers and the public. CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHGs (CEQ 2010).

The GHGs covered by EO 13514 are CO_2, CH_4, N_2O, HFC, perfluorocarbons, and sulfur hexafluoride. These GHGs have varying heat-trapping abilities and atmospheric lifetimes. CO_2 equivalency (CO_2e) is a measuring methodology used to compare the heat-trapping impact from

various GHGs relative to CO_2. Some gases have a greater global warming potential than others. N_2O, for instance, has a global warming potential that is 310 times greater than an equivalent amount of CO_2, and CH_4 is 21 times greater than an equivalent amount of CO_2 (CEQ 2012).

The California Global Warming Solutions Act of 2006 directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020. The *Climate Change Scoping Plan* is California's strategy to reach the required GHG reduction goals. The plan calls for reducing current annual emissions of 14 tons of CO_2 for each man, woman, and child in California down to about 10 tons per person by 2020. The plan identifies a cap-and-trade program as one of the strategies California will employ to reduce GHG emissions that cause climate change. On October 20, 2011, the CARB adopted the final cap-and-trade regulation. Under the cap-and-trade program, an overall limit on GHG emissions from capped sectors will be established, and facilities subject to the cap will be able to trade permits, or allowances, to emit GHGs.

In 2009, the Army published the *Army Energy Security Implementation Strategy* in effort to reduce energy consumption, GHG emissions, and dependence on petroleum and increase the use of renewable energy resources. Goals outlined in the strategy included the following:

- Reduce energy consumption
- Increase energy efficiency across platforms and facilities
- Increase use of renewable or alternative energy supplies
- Ensure access to sufficient energy supplies
- Reduce adverse impacts on the environment

3.3.2 Environmental Consequences

3.3.2.1 Alternative 1 (Preferred Alternative)

No new stationary sources of air emissions would be expected as part of the Preferred Alternative. Equipment used to construct the proposed ACP would be owned or leased and brought on-site by contractors who would be responsible for any permit requirements. The Preferred Alternative would include one 1,500-kilowatt backup generator. The generator would provide a backup energy source in the event of a power outage. The operation of the generator would be in accordance with CARB and the BAAQMD rules. As in the past, MOTCO would coordinate with the BAQMD to obtain all appropriate permits or registrations prior to operation of the generator.

The CARB's Portable Engine Airborne Toxic Control Measure (ATCM) fleet standards went into effect on January 1, 2013. The ATCM requires owners of portable engines to submit a statement of compliance signed by a Responsible Official to the Air Resources Board. In addition to the statement of compliance, a summary that identifies each portable engine in the fleet and the associated emission rate must be submitted. Portable engines would likely be used on-site during construction of the proposed ACP but would be under the ownership and control of contractors performing the construction work. Compliance with the ATCM would be the responsibility of the contractors.

In general, emissions from construction activities would include temporary emissions from off-road heavy duty diesel-powered construction equipment, on-road vehicular traffic, and fugitive dust emissions generated during construction. BMPs and California-required vehicle retrofits and emissions system modifications will be identified as requirements in construction contracts. These BMPs will include, but will not be limited to the following:

- Air-1: Placing a time restriction of 5 minutes of unnecessary heavy equipment idle time and incorporating unscheduled inspections to verify compliance with the restriction.
- Air-2: Ensuring that equipment engines are maintained and tuned to perform at CARB and/or USEPA certification levels, preventing tampering, and conducting unscheduled inspections to ensure these measures are followed.
- Air-3: Leasing new equipment, where practicable, that meets the most stringent of applicable federal or California standards.
- Air-4: Committing to the best available emissions control technology where practicable and reasonable. Use of Tier 4 engines will be utilized as much as is feasible. For equipment that does not meet Tier 4 standards, CARB and USEPA-verified controls, such as particulate traps and oxidation catalysts, will be used to reduce emissions of diesel particulate matter and other pollutants.
- Air-5: Controlling fugitive dust, where appropriate, by covering soil piles, installing wind fencing, and limiting equipment and haul truck speeds to 15 miles per hour on-site.

Temporary and minor impacts on air pollution would occur from the use of construction equipment (combustion emissions) and the disturbance of soils (fugitive dust) during construction of the proposed ACP. Particulate emissions would occur as a result of construction activities, such as vehicle trips on unimproved roads, bulldozing, compacting, truck dumping, and grading. Construction activities would also generate minimal VOCs, NO_2, CO_2, and SO_2 emissions from construction equipment and support vehicles. Fugitive dust and other emissions would minimally increase during construction; however, these emissions would be temporary and would return to pre-project levels upon the completion of construction. Emissions as a result of the Preferred Alternative are expected to be below the *de minimis* threshold and therefore would not be considered significant. BMPs, such as dust suppression and maintaining equipment in proper working condition would reduce the temporary construction impacts.

Once construction is completed, operational air emissions would be expected to be reduced over current levels due to the new ACP and dedicated truck inspection area, which would result in the more efficient movement of truck traffic and cargo and the reduction of traffic congestion and idling time.

3.3.2.2 Alternative 2

Alternative 2 would have similar impacts on air quality as Alternative 1 (Preferred Alternative); however, with a smaller project footprint and likely shorter construction duration, as well as the anticipated decrease in the time required to access the installation as compared to Alternative 1, air quality impacts could be slightly less than those under Alternative 1. The same air quality BMPs associated with Alternative 1 (Preferred Alternative) would also be implemented as part of Alternative 2.

3.3.2.3 No Action Alternative

Under the No Action Alternative, construction and operation of a new ACP would not occur. Therefore, no additional air emissions would be generated and no reductions over current levels would be expected.

3.4 BIOLOGICAL RESOURCES

3.4.1 Existing Conditions

3.4.1.1 Habitats

The Tidal Area of MOTCO encompasses a variety of habitats arrayed across overlapping gradients of salinity, tidal exposure, drainage, and elevation, as well as anthropogenic alterations. Table 3-3 presents the general habitat types and acreages within MOTCO's Tidal Area.

Table 3-3. Habitat Types within the Tidal Area at MOTCO

Habitat Type	Tidal Area		Total
	Mainland	Offshore Islands	
Developed/Disturbed	815	0	930
Non-native Annual Grassland	1,706	0	1,706
Canal	7	0	7
Slough	32	0	32
Unimpaired Tidal Marsh	97	1,075	1,172
Muted Tidal Marsh	1,647	0	1,647
Diked Marsh	12	0	12
Deep Bay	4	1	5
Shallow Bay	16	195	211
Tidal Flat	2	2	4
Saline Depression	2	0	2
Transitional Brackish Marsh	46	0	46
Totals	**4,422**	**1,275**	**5,812**

Source: USACE 2011
Note: Marsh and bay acreages vary depending on sedimentation, shoreline erosion, and sea-level rise.

Photograph 3-1. Non-native grasslands habitat at the alternative sites.

Both alternative sites are located in an upland area that supports non-native annual grasslands (Photograph 3-1). Grazing is used to control vegetative growth and to reduce fire hazards in this area. The dominant plant species are non-native grasses including wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), Mediterranean barley (*Hordeum marimum*), and Italian ryegrass (*Lolium multiflorum*). Several acres of non-native annual grasslands throughout MOTCO, including

the alternative sites, also support the noxious, invasive species, yellow star thistle (*Centaurea solstitialis*).

3.4.1.2 Wildlife

Although the non-native grasslands at MOTCO are dominated by non-native and invasive plant species, they provide habitat for wildlife, particularly in areas where grasslands transition to marshlands along a broad ecotone on the upper edge of the Tidal Area.

Amphibian and reptile species that are known or likely to occur at the alternative sites include the American bullfrog (*Lithobates catesbeianus*), Pacific chorus frog (*Pseudacris regilla*), valley garter snake (*Thamnophis sirtalis fitchi*), red-sided garter snake (*Thamnophis sirtalis infernalis*), Pacific gopher snake (*Pituophis catenifer catenifer*), California kingsnake (*Lampropeltis getula californiae*), Pacific ringneck snake (*Diadophis punctatus amabilis*), sharptail snake (*Contia tenuis*), California alligator lizard (*Elgaria multicarinata multicarnata*), coast garter snake (*Contia tenuis terrestris*), and the coast range fence lizard (*Sceloporus occidentalis bocourtii*) (USACE 2011).

Both alternative sites are located adjacent to two Important Bird Areas (IBAs) as recognized by the National Audubon Society (2016): Suisun Marsh and Concord Marsh. These IBAs support at least 221 bird species (Audubon Society 2016) and are important for breeding, migrating, and wintering songbirds, raptors, shorebirds, and waterfowl. The MOTCO INRMP (USACE 2011) lists 160 bird species known or likely to occur at MOTCO. Water- and wetland-associated bird species are especially numerous at MOTCO, while few species are associated with the non-native grassland habitats, such as those found at the alternative sites.

Mammals most likely to occur within and near the alternative sites include wide-ranging generalists and predators such as Virginia opossum (*Didelphus virginiana*), brush rabbit (*Sylvilagus bachmani*), California ground squirrel (*Spermophilus beecheyi*), western harvest mouse (*Reithrodontomys megalotis*), deer mouse (*Peromyscus manicultalus*), Pinyon mouse (*Peromyscus truei*), black-tailed jackrabbit (*Lepus californicus*), California vole (*Microtus californicus*), Norway rat (*Rattus norvegicus*), house mouse (*Mus musculus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), muskrat (*Ondatra zibethicus*), long-tailed weasel (*Mustela frenata*), badger (*Taxidea taxus*), western spotted skunk (*Spilogale gracilis*), striped skunk (*Mephitis mephitis*), river otter (*Lutra canadensis*), and mule deer (*Odocoileus hemionus*) (USACE 2011).

3.4.1.3 Special Status Species

For the purposes of this EA, special status species include species that are federally listed as threatened or endangered, or that are considered a candidate species by USFWS or National Marine Fisheries Service (NMFS) under the ESA. Special status species also include species protected under the Bald and Golden Eagle Protection Act (BGEPA) or the Marine Mammal Protection Act (MMPA); species listed as threatened or endangered by the State of California, for which California Department of Fish and Wildlife (CDFW) (formerly the California Department of Fish and Game) is the responsible agency, under the California Endangered Species Act or Native Plant Protection Act, included on the California Native Plant Society

(CNPS) Inventory of Rate and Endangered Plants; and other species of concern. The emphasis of the analysis is on federally listed species. The Army also consulted the USFWS Information for Planning and Conservation (IPaC) Tool (USFWS 2016b; Appendix B) in determining the species to include for consideration in the effects analysis for the alternative sites in this EA. The listing of federally listed and/or state-listed threatened or endangered species and other state or federal species of concern is provided in Table 3-4.

Species occurrence data is based on recent special status surveys within MOTCO's Tidal Area, localized survey efforts conducted in association with interim environmental restoration projects and the MOTCO INRMP (USACE 2011), and a California Natural Diversity Database (CNDDB) search (CNDDB 2017).

Only two species, California red-legged frog (*Rana draytonii*) and California tiger salamander (*Ambystoma californiense*), have potential habitat at or adjacent to the alternative sites. The paragraphs below describe the two species and their potential to occur at the alternative sites.

California red-legged frog

The California red-legged frog is the largest native species of frog in the western United States belonging to the true frog family (Ranidae). Endemic to California, the California red-legged frog is listed as a federally threatened species. Coloring of the posterior abdomen and coloring of hind legs tends to be red or salmon pink, and the back contains dark blotches with small black flecks upon a reddish-brown, brown, gray, or olive background color (Photograph 3-2).

Photograph 3-2. California red-legged frog
Source: USFWS

California red-legged frogs require a mixture of habitat areas, including standing water for breeding within riparian and upland areas, and occur from sea level to elevations of about 5,000 feet (USFWS 2002). These frogs are common in the San Francisco Bay area and along the central coast of California; however, they have been eradicated from much of their historical range, which once included the Sierra Nevada, the northern coast, and the northern Transverse ranges, as well as the peninsular ranges (LSA Associates 2009; USFWS 2002). They generally breed in ponds or pond-like areas of streams, lagoons, and marshes (Fellers 2009) from late November to early April, when female frogs deposit egg masses on emergent vegetation.

The California red-legged frog was federally listed as threatened in May 1996, and has been documented to have been eradicated from 70 percent of its former range (USFWS 2002). Threats to its populations are wetland destruction, contamination and fragmentation, as well as urbanization, development, construction of reservoirs, drought activity, stream channelization, and exotic introductions of predators. Another reason for declining populations of the red-legged frog is widespread usage of pesticides in California (Fellers 2009).

Table 3-4. Special Status Species Potentially Occurring in the Action Area

Common Name	Scientific Name	Status* Federal/State/CNPS/ IPaC *Critical Habitat?*	Occurrence within the Project Area	Responsible Agency	Habitat/Regional Occurrence
Plants					
Soft bird's-beak	*Cordylanthus mollis ssp. mollis*	E / R / 1B / IPaC	Unlikely, no suitable habitat within the Action Area	USFWS	Low marsh zone and eroding banks of Delta tidal brackish marshes. No occurrences were found in areas of suitable habitat within the Tidal Area during 2010 or 2013 surveys.
Antioch Dunes evening-primrose	*Oenothera deltoides* ssp. *howellii*	E / E / 1B / IPaC *Designated Critical Habitat*	Unlikely, no suitable habitat within the Action Area	USFWS	Sand dune habitat located near the meeting of the Sacramento River and the San Joaquin River. No previous occurrence at MOTCO.
Delta mudwort	*Limosella subulata*	-- / -- / 2B / --	Unlikely, no suitable habitat within the Action Area	CDFW	Mud banks of the Delta, usually in marsh associations with Mason's lilaeopsis.
Mason's lilaeopsis	*Lilaeopsis masonii*	-- / R / 2B / --	Unlikely, no suitable habitat within the Action Area	CDFW	Exposed sediments, mud banks along Delta brackish-tidal shorelines. On base, found in Middle Point Marsh.
Delta tule pea	*Lathyrus jepsonii ssp. jepsonii*	-- / -- / 1B / --	Unlikely, no suitable habitat within the Action Area	USFWS	Upper edges of fresh and brackish marshes and along streams and rivers of the Delta. On base, found on Ryer Island.
Suisun Marsh aster	*Symphyotrichum lentum*	-- / -- / 1B / --	Unlikely, no suitable habitat within the Action Area	USFWS	High marsh zone of Delta freshwater and tidal brackish marshes, also along slough and creek banks. On base, found in Middle Point Marsh, Pier Marsh, Hastings Slough, and on Ryer Island.
Showy madia	*Madia radiata*	-- / -- / 1B / --	Possible, although appropriate soils are not present within Action Area	CDFW	Grows in grasslands and woodlands on heavy clay soils. Last observed in the county in 1941.
Round-leaved filaree	*California macrophylla*	-- / -- / 2 / --	Possible, although appropriate soils are not present within Action Area	CDFW	Foothills within non-native annual grasslands with friable clay soils. Only several known locations within the county.
Fish					
Delta smelt	*Hypomesus transpacificus*	T / -- / -- / IPaC *Suisun Bay Designated as Critical Habitat*	Extremely unlikely, no suitable habitat within the Action Area	USFWS	Larval, juvenile, and adult Delta smelt may all be found in Suisun Bay, including the shallow edges and backwater sloughs.
Sacramento splittail	*Pogonicthys macrolepidotus*	--/ SC / -- / --	Extremely unlikely, no suitable habitat within the Action Area	NMFS	Occurs in Suisun Bay, but prefers shallow water with low salinity (0-10 ppt).
Longfin smelt	*Spirinchus thaleichthys*	C / T / -- / --	Extremely unlikely, no suitable habitat within the Action Area	USFWS	Larval and juvenile longfin smelt may be found in Suisun Bay.
Green sturgeon	*Acipensir medirostris*	T / -- / -- / -- *Suisun Bay Designated Critical Habitat*	Extremely unlikely, no suitable habitat within the Action Area	NMFS	Suisun Bay supports juvenile, sub-adult, and adult Southern DPS fish, serving as important rearing habitat and an important migratory corridor from the San Pablo and San Francisco Bays to and from the Delta and Sacramento River system.
Central Valley steelhead	*Oncorhynchus mykiss irideus*	T / -- / -- / --	Extremely unlikely, no suitable habitat within the Action Area	NMFS	An ocean-maturing species that migrates through Suisun Bay, primarily December-April, to spawn upstream.
Central California coast steelhead	*Oncorhynchus mykiss*	T / -- / -- / IPaC	Extremely unlikely, no suitable habitat within the Action Area	NMFS	An ocean-maturing species that migrates through Suisun Bay, primarily January-April, to spawn upstream.
Sacramento chinook salmon, Winter Run	*Oncorhynchus tshawytscha*	E / -- / -- / -- *Suisun Bay Designated Critical Habitat*	Extremely unlikely, no suitable habitat within the Action Area	NMFS	Adults migrate through Suisun Bay in December-July, with smolts returning downstream to the ocean within one year.
Central Valley chinook salmon, Spring Run	*Oncorhynchus tshawytscha*	T / -- / -- / --	Extremely unlikely, no suitable habitat within the Action Area	NMFS	Adults migrate through Suisun Bay in March-July, with smolts returning downstream to the ocean within one year.
Central Valley chinook salmon, Fall and Late-Fall Run	*Oncorhynchus tshawytscha*	SOC/ -- / -- / --	Extremely unlikely, no suitable habitat within the Action Area	NMFS	Adults migrate through Suisun Bay in June-December, with smolts returning downstream to the ocean within one year.
Amphibians					
California red-legged frog	*Rana draytonii*	T / CE / -- / IPaC	Possible	USFWS	Permanent freshwater ponds and marshes. Nearest known occurrences are in four ponds within Inland Re-Use Area. No occurrences were found in Action Area during 2014-2015 or 2015-2016 surveys.

Table 3-4, continued

Common Name	Scientific Name	Status* Federal/State/CNPS/ IPaC *Critical Habitat?*	Occurrence within the Project Area	Responsible Agency	Habitat/Regional Occurrence
California tiger salamander	*Ambystoma californiense*	T / CE / -- / IPaC	Possible	USFWS	Permanent freshwater ponds and marshes. Nearest known occurrences are in four ponds within Inland Re-Use Area. No occurrences were found in Action Area during 2014-2015 and 2015-2016 surveys.
Reptiles					
Northwestern pond turtle	*Actinemys m. marmorata*	-- / SC / -- / --	Possible	USFWS	Permanent or near-permanent freshwater ponds. Previous occurence in Tidal Area on-installation in Otter Slough and Seal Creek Marsh.
Alameda whipsnake	*Masticophis lateralis euryxanthus*	T / T / -- / IPaC *Designated Critical Habitat*	Unlikely	USFWS	Chaparral, northern coastal sage scrub, adjacent habitats, such as grasslands, oak savannas, and occasionally oak-bay woodlands. No previous occurrence on MOTCO.
Giant garter snake	*Thamnophis gigas*	T / T / -- / IPaC	Unlikely	USFWS	Marshes, sloughs, drainage canals, and irrigation ditches, especially around rice fields, and occasionally in slow-moving creeks. No previous occurrence on MOTCO.
Birds					
California black rail	*Laterallus jamaicensis coturniculatus*	-- / T / -- / --	Possible	CDFW	Low-lying salt marshes with abundant pickleweed. Found during 2010 and other surveys at numerous sites within Tidal Area.
California Ridgway's rail (formerly California clapper rail)	*Rallus obsoletus obsoletus* (formerly *Rallus longirostris obsoletus*)	E / E / -- / IPaC	Extremely unlikely; limited potential habitat, no recent occurrences, and not detected in recent surveys	USFWS	Salt and brackish marshes. Rare in Suisun Bay. No occurrences were found within or adjacent to the project action area during 2010, non-protocol 2013 survey, or during 2015 protocol survey.
California least tern	*Sternula antillarum browni*	E / E / -- / --	Possible, transient occurrence	USFWS	Colonial breeder on bare or sparsely vegetated sand beaches or alkali flats. Last observed on installation in 1982. Nesting colony ~10 mi up Delta in Montezuma Slough.
Golden eagle	*Aquila chrysaetos*	BGEPA/ --/ -- / --	Possible	CDFW	Feeds in open terrain and nests on cliffs and large trees. May occur, but has not been observed.
Suisun song sparrow	*Melospiza melodia maxillaris*	-- / SC / -- / --	Possible	CDFW	Endemic to marshes bordering San Francisco Bay. Observed on installation in numerous tidal marsh areas (2009).
Saltmarsh common yellowthroat	*Geothylipis trichas sinuosa*	-- / SC / -- / --	Possible	CDFW	Occurs in coastal salt marsh areas of San Francisco Bay, but west of the Carquinez Strait. Several nearby documented occurrences may be of the more common species.
Tricolored blackbird	*Agelaius tricolor*	-- / SC / -- / --	Possible	CDFW	Requires large stands of bulrush and cattails, and can occur in Bay coastal marsh.
Burrowing owl	*Athene cunicularia*	-- / SC / -- / --	Possible	CDFW	Open, dry grasslands, including along levees and sloughs. May occur in Tidal Area on installation, but not observed in 2009 surveys.
Short-eared owl	*Asio flammeus*	-- / SC / -- / --	Possible	CDFW	Open, dry grasslands, including along levees and sloughs. May occur in Tidal Area on installation.
Loggerhead shrike	*Lanius ludovicianus*	-- / SC / -- / --	Possible	CDFW	Dry grasslands with scattered trees and shrubs. Observed on installation at numerous locations within Tidal Area (2009).
Mammals					
Salt Marsh harvest mouse	*Reithrodontomys raviventris*	E / E / -- / IPaC	Unlikely given limited extent of potential habitat	USFWS	Requires large pickleweed flats with adjoining refuge areas above the High Tide line. There is an up to 30 percent probability for this species to occur on MOTCO, primarily in areas of Pier Marsh; occurrence in other marsh areas cannot be discounted, but regarded as very low potential.
Salt-marsh wandering shrew	*Sorex vagrans halicoetes*	-- / SC / -- / -- / --	Unlikely given limited extent of potential habitat	USFWS	Mid-marsh (6-8 feet above MSL) pickleweed habitat, similar to the harvest mouse and the California Ridgway's rail.
Humpback whale	*Megaptera novaeangliae*	E,MMPA / -- / -- / --	Extremely unlikely	NMFS	Rare occurrence in Suisun Bay-Delta.
Pacific harbor seal	*Phoca vitulina richarii*	MMPA / -- / -- / --	Extremely unlikely	NMFS	Small numbers present in Suisun Bay.
California sea lion	*Zalophus californianus*	MMPA / -- / -- / --	Extremely unlikely	NMFS	Spotted periodically in Suisun Bay.
Crustaceans					
Vernal pool fairy shrimp	*Branchinecta lynchi*	T / -- / -- / IPaC *Designated Critical Habitat*	Extremely unlikely	USFWS	Vernal pools in Oregon and California; occasionally in artificial pools created by roadside ditches. No previous occurrence on MOTCO.
Vernal pool tadpole shrimp	*Lepidurus packardi*	E / -- / -- / IPaC *Designated Critical Habitat*	Extremely unlikely	USFWS	Vernal pools, clay flats, alkaline pools, ephemeral stock tanks, roadside ditches, and road ruts in California's Great Central Valley. No previous occurrence on MOTCO.

Table 3-4, continued

Common Name	Scientific Name	Status* Federal/State/CNPS/ IPaC *Critical Habitat?*	Occurrence within the Project Area	Responsible Agency	Habitat/Regional Occurrence
Insects					
Delta green ground beetle	*Elaphrus viridis*	T / -- / -- / IPaC *Designated Critical Habitat*	Extremely unlikely	USFWS	Open habitats in the grassland-playa pool matrix in the greater Jepson Prairie area in south-central Solano County. No previous occurrence on MOTCO.
San Bruno elfin butterfly	*Callophrys mossii bayensis*	E / -- / -- / IPaC *Designated Critical Habitat*	Extremely unlikely	USFWS	Rocky outcrops and cliffs in coastal scrub on the San Francisco peninsula. No previous occurrence on MOTCO.
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T / -- / -- / IPaC *Designated Critical Habitat*	Unlikley	USFWS	On or close to host plant, red or blue elderberry (*Sambucus* spp.), along rivers and streams. No previous occurrence on MOTCO.

Source: USFWS 2016b , CNDDB 2017, and CNPS 2017

Notes: T = Threatened; E = Endangered; C = Candidate; SOC = Species of Concern; R = Rare; SC = Special Concern; BGEPA = Bald and Gold Eagle Protection Act; MMPA = Marine Mammal Protection Act; 1B = Plants that are considered by the California Native Plant Society (CNPS) as Rare, Threatened, or Endangered in California and elsewhere; and 2B = Plants that are considered by CNPS as Rare, Threatened, or Endangered in California, but more common elsewhere, Threatened, or Endangered in California but are more common elsewhere. The Species of Concern category does not apply at the federal level as it is an informal term and is not defined in the federal ESA.

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During the 1998-1999 surveys in support of the INRMP (Downard et al. 1999), California red-legged frogs were found at 10 different locations within the Inland Re-Use Area of Naval Weapons Station Seal Beach, Detachment Concord, which is no longer a part of MOTCO property. These locations range in distance from 4.0 to 6.0 miles from the current installation boundary, and California Highway 4 represents an obstacle to any potential northward movement. However, California red-legged frog could be using any of the several springs in the Los Medanos Hills as breeding pools, and tadpole larvae of unknown species type were observed in at least one of these pools during the reconnaissance surveys conducted in support of the 2011-2016 INRMP in June 2009 (USACE 2011).

Although the California red-legged frog has not been documented within the current MOTCO boundary, the USFWS requires the Army to complete protocol-level surveys for the species because its range extends into Contra Costa County. Protocol-level surveys were completed most recently during the 2014-2015 and 2015-2016 seasons (USFWS 2015 and USFWS 2016a). Three sample locations included in the recent surveys were located in the vicinity of the alternative sites. During the 2014-2015 and 2015-2016 protocol surveys, no California red-legged frogs were detected at MOTCO, but several aquatic features were identified that could support breeding. It should be noted, however, that the sampling period occurred during a period of extreme drought conditions, which may have affected the sampling effort.

The alternative sites are located in an area that provides potentially suitable habitat for the California red-legged frog. Suitable habitat potentially includes all aquatic, riparian, and upland areas within the range of the species and includes any landscape feature that provides cover, such as animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned sheds, or hay stacks may also be used. Even so, based on recent survey results, the potential for California red-legged frogs to inhabit the alternative sites is low.

<u>California tiger salamander</u>

This salamander, which is designated as federally threatened throughout its range, is an amphibian within the family Ambystomatidae. Adults range in size from about 6 to 8.5 inches in total length, with a lustrous black coat speckled with large yellow spots and bars (Mossman 2009) (Photograph 3-3). The distribution and range of the California tiger salamander is endemic and restricted to California and does not overlap with any other tiger salamander species (Holzman 2003; Mossman 2009). Because these salamanders are only able to adapt to a very narrow range of environmental situations, due to habitat loss, the California tiger salamander currently has only two sub-populations, which are now discontinuous from one another (Holzman 2003).

Photograph 3-3. California tiger salamander
Source: USFWS

Tiger salamanders tend to live within vacant mammal burrows, particularly those made by ground squirrels and gophers (California Herps 2009), and lay their eggs in vernal or ephemeral pools and ponds (Natureserve 2009). Breeding generally occurs during December to February/March once the vernal pools fill. California tiger salamanders will migrate to breeding grounds up to a mile away to lay their eggs (Holzman 2003; Natureserve 2009).

During the 1998-1999 surveys in support of the INRMP (Downard et al. 1999), California tiger salamanders were found at nine different locations, but all were within portions of the Inland Area that are no longer part of MOTCO. These locations range in distance from 4.0 to 6.0 miles from the current installation boundary, and California Highway 4 represents an obstacle to any potential northward movement. However, this species may be using any of the several springs in the Los Medanos Hills as breeding pools. Tadpole larvae were observed in at least one of these pools during the reconnaissance surveys conducted for the 2011-2016 INRMP in June 2009 (USACE 2011).

Although the California tiger salamander has not been documented within the current MOTCO boundary, the USFWS requires the Army to complete protocol-level surveys for the species because MOTCO is within the range of the Central Valley population of California tiger salamanders. Protocol-level surveys were completed most recently during the 2014-2015 and 2015-2016 seasons (USFWS 2015 and USFWS 2016a). Three sample locations included in the recent surveys were located in the vicinity of the alternative sites. During the 2014-2015 and 2015-2016 protocol surveys, no California tiger salamanders were detected at MOTCO, but several aquatic features were identified that could support breeding. It should be noted, however, that the sampling period occurred during a period of extreme drought conditions, which may have affected the sampling effort.

Both alternatives sites are located in an area that provides potentially suitable habitat for the California tiger salamander. Suitable habitat potentially includes all aquatic, riparian, and upland areas within the range of the species and includes any landscape feature that provides cover, such as animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned sheds, or hay stacks may also be used. Even so, based on recent survey results, the potential for California tiger salamanders to inhabit the alternative sites is low.

3.4.2 Environmental Consequences

3.4.2.1 Alternative 1 (Preferred Alternative)

Habitats

The Preferred Alternative does not contain any aquatic habitats or habitat with direct connection to Suisun Bay. As such, no impacts on aquatic habitat or species are expected. The Preferred Alternative is located within an area of non-native annual grassland habitat. Approximately 12.5 acres of non-native annual grasslands would be lost due to construction of the proposed ACP. MOTCO contains over 1,700 acres of this non-native habitat, and the loss of 12.5 acres would result in negligible impacts on vegetative habitats.

Wildlife

General wildlife potentially affected by the implementation of the Preferred Alternative would primarily be birds and small mammals that inhabit the area. Impacts on these species would largely be localized. During construction, most wildlife species would be expected to flee the area. After construction is complete, landscaping at the new ACP would provide minor localized replacement habitat in the built environment. Wildlife in adjacent habitats that may flee during construction would be expected to return after disruptions associated with construction activities have ceased. Therefore, implementation of the Preferred Alternative would result in negligible impacts on wildlife.

Special Status Species

As discussed in Section 3.4.1.3, the USFWS requires the Army to complete protocol-level surveys for California red-legged frogs and California tiger salamanders because the range for the California red-legged frog extends into Contra Costa County and MOTCO is within the range of the Central Valley population of California tiger salamanders. Protocol level surveys were completed most recently during the 2014-2015 and 2015-2016 seasons. Three sample locations included in the recent surveys were located in the vicinity of the Preferred Alternative site. The 2014-2015 and 2015-2016 protocol surveys, in conjunction with past surveys, indicate a negative finding for both the California red-legged frog and California tiger salamander.

In accordance with Section 7 of the ESA, the Army consulted with the USFWS regarding the potential for implementation of the Preferred Alternative to affect threatened and endangered species or critical habitat. The Army first initiated informal consultation with the USFWS on October 14, 2011, regarding implementation of all RPMP Category A projects as part of the *EA for Implementation of a Real Property Master Plan, Integrated Natural Resources Management Plan,* and *Integrated Cultural Resources Management Plan* (U.S Army 2013a). Construction of the proposed ACP was included in the list of RPMP Category A projects in the EA. In preparing this EA, the Army again consulted with the USFWS regarding the potential for implementation of the Preferred Alternative to affect threatened and endangered species or critical habitat. In a December 2016 letter (Appendix A), the Army asked for USFWS concurrence with their determination that the Preferred Alternative may affect, but is not likely to adversely affect, the California red-legged frog and California tiger salamander, due to the very low potential for occurrence, coupled with the implementation of avoidance and minimization measures that would be incorporated into the project.

Furthermore, as part of the Preferred Alternative, the Army will implement precautionary avoidance, minimization, and compensation measures for the California red-legged frog and California tiger salamander. As outlined the January 17, 2017, concurrence letter (appendix A) from the USFWS, the following measures will be implemented:

1. A Service-approved biologist will be present during initial ground disturbance, excavating, leveling, and site preparation activities to monitor for the presence of listed species. If a California tiger salamander or a California red-legged frog is found within the project site, work will stop and the Service will be contacted immediately.

2. A Service-approved biologist will conduct a pre-project briefing to all personnel involved with project activities. This briefing will include information on the identification and life history of the California tiger salamander and the California red-legged frog, the status of both species as it relates to the Act, and any measures being implemented to protect both species.

3.4.2.2 Alternative 2

Alternative 2 would have similar impacts on biological resources as Alternative 1 (Preferred Alternative); however, only approximately 4.8 acres of non-native annual grasslands would be lost due to construction of the non-sally port design ACP. The same USFWS-recommended precautionary avoidance, minimization, and compensation measures for the California red-legged frog and California tiger salamander associated with Alternative 1 (Preferred Alternative) would also be implemented as part of Alternative 2.

3.4.2.3 No Action Alternative

Implementation of the No Action Alternative would not result in impacts on habitats, wildlife, or special status species because no new ACP would be constructed.

3.5 LAND USE

3.5.1 Existing Conditions

Land use in the Tidal Area serves the primary mission of MOTCO as the shipping and distribution home of the 834th TRANS BN. In the Tidal Area, missions generally occur at the port in the northern portion adjacent to Suisun Bay, with ammunition holding and transfer facilities located in the center. The prominent active land use in the Tidal Area is ammunition holding and staging, with approximately 8 percent of lands devoted to this function. Large portions of the Tidal Area (30 percent) are marsh and wetland preserve lands located within the IBD ESQD arc. Also included in the Tidal Area are 2,045 acres of offshore islands.

Both alternative sites are located in a previously disturbed area, but are currently undeveloped. Specifically, the sites are within annual non-native grassland habitat, where current land use is limited to grazing. The sites are located near the existing ACP #5 within an area of high development potential (i.e., outside the IBD ESQD arc) (see Figure 1-2), and construction and operation of the proposed ACP at either alternative site is consistent with land use for the general area outlined in MOTCO's RPMP.

3.5.2 Environmental Consequences

3.5.2.1 Alternative 1 (Preferred Alternative)

Implementation of the Preferred Alternative would convert 12.5 acres of previously disturbed, but undeveloped, non-native grasslands to 12.5 acres of developed land. The site is located within the eastern portion of the Tidal Area in an area identified in MOTCO's RPMP as having high development potential and outside the IBD ESQD arc. Reinstitution of ACP #5 as a major point of entry to the installation is consistent with the land use outlined in MOTCO's RPMP. Moreover, there are approximately 1,300 acres of grasslands at MOTCO, and the loss of 12.5

acres of non-native grasslands would be negligible. Therefore, negligible impacts on land use would be expected from the conversion of 12.5 acres of undeveloped grasslands to a built environment land use.

3.5.2.2 Alternative 2

Alternative 2 would have similar impacts on land use as Alternative 1 (Preferred Alternative); however, only approximately 4.8 acres of acres of previously disturbed, but undeveloped, non-native grasslands would be converted to developed land with the construction of the non-sally port design ACP.

3.5.2.3 No Action Alternative

Under the No Action Alternative, a new ACP would not be constructed. The current land use pattern at MOTCO would not change from existing conditions, and no additional impacts on land use are anticipated.

3.6 TRANSPORTATION AND UTILITIES INFRASTRUCTURE

3.6.1 Existing Conditions

3.6.1.1 Road Transport

California Highway 4 provides the main access to MOTCO, with State Highway 242 and Interstates 680, 80, 580, and 780 providing access towards San Francisco, Oakland, San Jose, and Sacramento. The Tidal Area's primary road network consists of Port Chicago Highway/Taylor Boulevard, White Road, and Main Street/Murdoh Road. These roads provide access to the Tidal Area and between the various Tidal Area functions. Port Chicago Highway, which is a county road, provides access to ACP #1 and ACP #2 from California Highway 4 (see Figure 1-3).

ACP #1 is the main gate providing access to the installation's administrative area and is accessible via Kinne Boulevard (see Figure 1-3). ACPs #2, #3, #4, and #5 provide access to the Tidal Area. ACP #2, located at Port Chicago Highway and Taylor Boulevard (see Figure 1-3), currently serves as the primary entry point for trucks entering the Tidal Area. ACP #3 is located near the community of Clyde at the intersection of Port Chicago Highway and the PG&E utility corridor (see Figure 1-3). ACP #4 is located along Waterfront Road on the western side of the Tidal Area in the Hastings Marsh Area (see Figure 1-3). ACP #5 is located in the eastern portion of the Tidal Area at the intersection of Port Chicago Highway and Nichols Road (see Figure 1-3).

The City of Concord has designated a truck route for vehicles exceeding a maximum gross weight of 3 tons. Trucks exceeding this weight are prohibited from using all other streets except when necessary to travel to their destination for the purposes of loading or unloading (passenger buses, public utility vehicles while in use, and refuse collection vehicles are exempt) (City of Concord 2015a, 2015b). Near MOTCO's Tidal Area, designated truck routes include Willow Pass Road and Port Chicago Highway near Arnold Industrial Way.

In addition, Contra Costa County issues special permits to operate or move a vehicle, combination of vehicles, or special mobile equipment of a size or weight of vehicle or load exceeding the maximums specified in the California Vehicle Code. Permits available include single trip, repetitive, and annual transportation permits (Contra Costa County 2015).

The annual average daily traffic volumes (AADT) in the vicinity of ACP #1 along Port Chicago Highway near California Highway 4, on the back and front sides of mile marker 15.424, were 93,000 and 153,000 vehicles, respectively, in 2014 (California Department of Transportation [Caltrans] 2014a). The AADT on the back and front sides of mile marker 18.83 on Port Chicago Highway, which is located along the route to ACP #5 near the community of Bay Point, were 150,000 and 133,000 vehicles, respectively, in 2014 (Caltrans 2014a). At this same location on Port Chicago Highway, Caltrans also determines AADT specific to trucks. In 2014, the AADT of trucks was 7,343 vehicles on the back side of mile marker 18.83 and 7,756 vehicles on the front side of the mile marker (Caltrans 2014b).

Bay Point has a network of county-maintained roads that were built to support local residential neighborhoods, as well as major thoroughfares, or arterials, including Willow Pass Road, Port Chicago Highway, and Bailey Road, that link Bay Point to California Highway 4 and neighboring communities. Prior to 1994, one of Bay Point's key arterial connections with neighboring communities was the segment of Port Chicago Highway that runs through MOTCO. With its closure to public access, the primary east-west surface street linking Bay Point with Concord to the west was cut off.

The current amount of traffic using local roads in Bay Point generally reflects the size of Bay Point's population and the level of activity that occurs on a daily basis in the area. Under both action alternatives, the proposed access route from California Highway 4 to the new ACP is through the community of Bay Point (Figure 3-5). Specifically, from California Highway 4, trucks would take Exit 19 for San Marco Boulevard/Willow Pass Road toward Bay Point and would turn left onto Willow Pass Road. After approximately 0.5 mile, trucks would turn left onto Port Chicago Highway and travel 2.3 miles through the community to reach the proposed ACP. Table 3-5 presents the most recent available traffic counts for locations along Port Chicago Highway (Contra Costa County 2007) that are along the proposed truck route. The locations where traffic data were collected along the route are provided in Figure 3-6.

Table 3-5. Average Daily Vehicle Volumes

Roadway/Location of Data Collection	Northbound/ Eastbound	Southbound/ Westbound	Total Volume
Port Chicago Highway			
West of McAvoy Road	1,260	1,481	2,741
South of McAvoy Road	1,798	1,594	3,392
East of Nichols Road	433	500	933
West of Nichols Road	1,265	1,222	2,487
North of Pacifica Avenue	2,500	3,010	5,510
South of Pacifica Avenue	6,258	6,035	12,293
North of Willow Pass Road	5,223	7,668	12,891

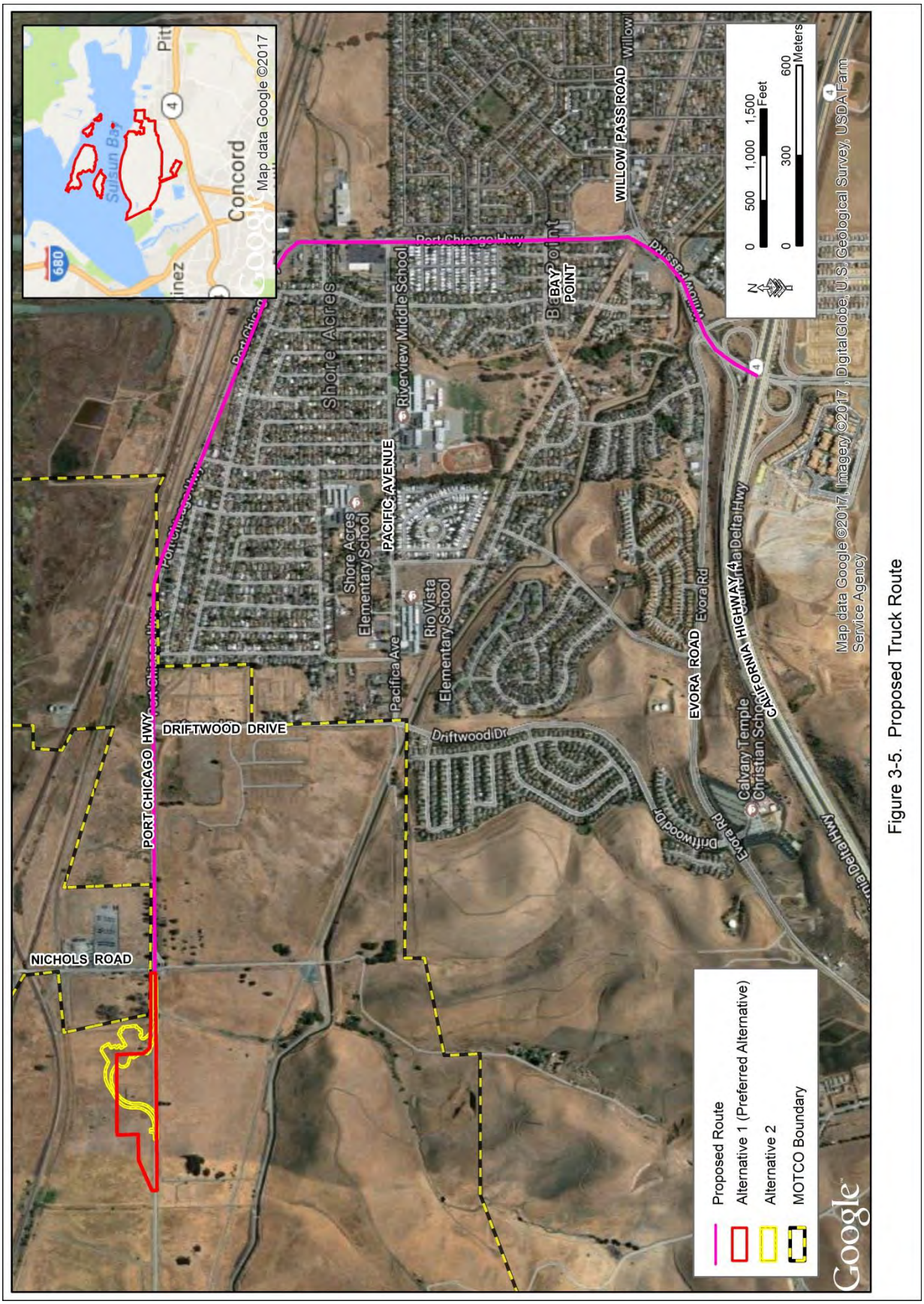

Figure 3-5. Proposed Truck Route

Figure 3-6. Traffic Data Collection Locations and LOS along Proposed Truck Route

Level of service (LOS) is a qualitative measure used to relate the quality of traffic service. LOS is used to analyze intersections and roadways by categorizing traffic flow and assigning quality levels of traffic based on performance measure like speed and density. LOS is represented by the letters A through F. A LOS of A is considered the least restricted, or freest, flow of traffic, while a LOS of F is considered the most restricted flow of vehicles. In the Bay Point Area, a LOS of D or better is considered acceptable, while a LOS of E or F is considered unacceptable (DKS Associates 2016).

In the *Nexus Study Bay Point Area of Benefits* prepared for the Contra Costa County Public Works Department by DKS Associates, in association with Urban Economics (2016), LOS was calculated for individual intersections and roadway segments within Bay Point. Intersection LOS analysis was based on average vehicle delay and analysis methods recommended by the Highway Capacity Manual (DKS Associates 2016). The roadway segment LOS analysis compared traffic levels with roadway segment capacities determined by the number of travel lanes and the roadway type (DKS Associates 2016).

Based on the Nexus Study, the current LOS for the segments of Port Chicago Highway along the access route to the proposed ACP ranges from A to C and is considered acceptable (see Figure 3-6) (DKS Associates 2016). There is one location along the proposed route, the traffic signal at the intersection of Port Chicago Highway and Pacifica Avenue (Figure 3-6), with a LOS of E during morning hours; however, the LOS returns to an acceptable LOS of B in the afternoon and evening (DKS Associates 2016).

Annual installation support-related truck traffic totaled 4 trucks in 2015 (MOTCO 2016). During mission in 2015, MOTCO's total truck volume was 258 trucks (MOTCO 2016). Missions typically take place for up to 36 days each year, and during these times, daily stevedore, bus, and POV traffic is estimated to total 80 vehicles. All POVs are parked in the parking lot near ACP #1, and workers are then shuttled to the Tidal Area through ACP #2. Because of the current ACP configuration, limited parking area, and requirement that all visitors must first check in at ACP #1 before accessing the installation via any other ACP, it is common for truck queuing to occur on Port Chicago Highway near ACP #1 as trucks wait to enter at ACP #2 during missions, which contributes to traffic congestion and delays along the highway. No trucks or POVs currently used ACP #5 to enter MOTCO during missions.

3.6.1.2 Mass Transit

Bay Area Rapid Transit (BART) commuter train service is available in the Contra Costa County and in the vicinity of MOTCO. BART stations on the yellow line are located near MOTCO with the North Concord/Martinez Station at the northwest intersection of California Highway 4 and Port Chicago Highway, approximately 1.0 mile south of the Main Gate. The Pittsburg/Bay Point BART station is located approximately 3.0 miles southeast of the alternative sites.

3.6.1.3 Rail Transport

Two major railroad lines currently carry freight and commuters within Contra Costa County. The UPRR line, formerly the Southern Pacific railroad line, stretches 60 miles through the county

from Richmond to the Alameda County line. The UPRR line carries the most freight traffic of all the railroad corridors in the county (Army 2015).

A 55-mile-long BNSF railroad corridor roughly parallels the UPRR line between Richmond and Hercules (Contra Costa County 2005). Amtrak currently operates four northbound and four southbound commuter train routes that traverse MOTCO seven days a week, primarily on the BNSF tracks (Amtrak 2009).

A railroad track inspection completed in 2005 (HDR Inc. 2005) found that, in general, the railroad system at MOTCO is in fairly good condition. MOTCO's rail infrastructure was designed and built at a time when 40-foot and 50-foot boxcars were common in rail conveyance. Today DoD-owned Rail Cars (DODX) are 89-foot flat cars. There are some areas where tight curvature impacts mission efficiency as tight turns must be negotiated at a very slow speeds of 10 mph or less to avoid derailments.

MOTCO currently relies on rail lines for approximately 95 percent of all its cargo transport needs. The rail lines described previously are used to transport cargo to and from MOTCO through Contra Costa County to the rest of the United States.

3.6.1.4 Water Transport

To fulfill its mission, MOTCO utilizes three wharves, known as Piers 2, 3, and 4, located along Suisun Bay within the Tidal Area. Together the wharves have 11.2 million pounds of net explosive weight (NEW) handling capacity. All of MOTCO's three main piers are mostly timber structures that were built between 1944 and 1945 to support ammunition movements to the Pacific theater during World War II. Each pier was constructed with a main deck plus raised platform along the waterside length of the pier. This dual-level pier design and MOTCO's rail track layout at the piers were originally designed for a non-containerized handling mission.

Currently, MOTCO primarily accommodates containerized cargo, which is a system of transport using containers. Containerized cargo is shipped directly from manufacturers via water transport and arrives at MOTCO's wharves where it is offloaded from ships and loaded onto DODX rail cars and trucks for transport. The current pier configuration is suboptimal in terms of useable space for forklifts and container handling equipment, which decreases the efficiency of waterside cargo handling during missions. As such, MOTCO is planning to modernize and repair Pier 2 and Pier 3 so that the Army can maintain its capability to meet DoD mission requirements (Army 2015).

3.6.1.5 Utilities

<u>Sanitary Sewer</u>

Sanitary sewer has been installed at MOTCO to serve current and past developments in the majority of the Tidal Area, with the notable exception of the eastern Tidal Area in which the existing ACP #5 is located. The Delta Diablo Sanitation District receives discharge from the Tidal Area. In 2010, Delta Diablo treated an average of 13.4 million gallons per day; the plant is capable of treating up to 16.5 million gallons per day (Delta Diablo Sanitation District 2013).

Potable Water

The Contra Costa Water District (CCWD) supplies potable water to MOTCO. Water is treated at the Bollman Water Treatment Plant located in Concord, which is owned and operated by the CCWD. Together with the Randall Bold Treatment Facility, the CCWD has the capacity to treat the current and projected service population (City of Concord 2013a). In addition, MOTCO has the capacity to receive water from the East Bay Municipal Utility District (Army 2015). All major facilities and the three piers at MOTCO have potable water.

Electricity

Power at MOTCO is delivered to an electrical substation located in the Inland Area. Electricity is then delivered to the Tidal Area through 12-kilovolt transmission lines. The lines typically branch out to 4-kilovolt transmission lines, with the exception of the piers, which are served by 12-kilovolt lines. The Tidal Area also contains four substations owned by PG&E; two are 12 kilovolt lines and two are 4.16 kilovolt lines. The electrical infrastructure at MOTCO is aging and in need of upgrades to meet current standards (Army 2011).

Natural Gas

Natural gas is supplied to MOTCO by PG&E and is transported from San Francisco through transmission mains from Canada and Texas. All major administrative buildings at MOTCO are connected to the natural gas lines.

Telecommunications

Telecommunications services are provided by AT&T via pole lines and underground conduit communications ducts for voice and data services.

Solid Waste

Solid waste, recyclable materials, and green waste are collected by Concord Disposal Services. There are two active solid waste landfills located within Contra Costa County: Acme Landfill and Keller Canyon Landfill (CalRecycle 2013a). In 2011, Contra Costa County disposed of a combined total of 721,079 tons of solid waste at the Acme and the Keller Canyon landfills (CalRecycle 2013b). The Acme landfill has a maximum permitted throughput of 1,500 tons per day and remaining capacity of 175,000 cubic yards (CY) (CalRecycle 2013c), while Keller Canyon Landfill has a maximum permitted throughput of 3,500 tons per day and a remaining capacity of 63,408,410 CY (CalRecycle 2013d).

California's Green (CAL Green) Building Standards Code (CAL Green Sections 4.408 and 5.408) requires the diversion of at least 50 percent of the non-hazardous waste generated during most new construction projects. On July 1, 2012, that requirement was expanded to include additions and alterations to existing nonresidential building projects (CAL Green Section 5.713 and CalRecycle 2013e). The City of Concord adopted a local construction and demolition materials ordinance requiring that at least 50 percent of the non-hazardous waste materials and at least 75 percent of all non-hazardous inert debris generated by the construction or demolition

project be diverted from the landfill (City of Concord 2013b). These goals are consistent with EO 13423, *Strengthening Federal Leadership in Environmental, Energy, and Transportation Management Performance*, and EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, which expanded the requirements set forth in EO 13423. EO 13514 required the diversion of at least 50 percent of construction and demolition materials and debris by the end of fiscal year 2015.

The community of Bay Point was awarded an Environmental Justice grant by the USEPA in 2007. In a USEPA Level 1 Grantee Final Report, it was noted that illegal dumping was a concern for any project that might involve the disposal of solid waste (USEPA 2009a). Due to Bay Point's proximity to the municipal landfill for the area, waste haulers often illegally dump solid waste in the fringes of the community so that they can avoid the tipping fees at the landfill or if they arrive after hours at the landfill and still want to dispose of their wastes (USEPA 2013). In particular, on a regular basis, solid waste is illegally dumped along Nichols Road near its intersection with Port Chicago Highway near the alternative sites.

3.6.2 Environmental Consequences

3.6.2.1 Alternative 1 (Preferred Alternative)

3.6.2.1.1 Transportation

During construction activities, there would be temporary impacts on traffic from construction-related trucks and POVs in the vicinity of MOTCO. Construction-related traffic would include heavy equipment, concrete trucks, dump/haul trucks, personnel transport trucks, vans, and buses, and others as necessary. The number of off-installation truck trips per day would depend on the construction activity being conducted. It is estimated, however, that there would be a total of approximately 3,618 truck trips (round trips) during construction, amounting to approximately 13.9 trips per day. During construction, it is anticipated that there would be approximately 10 to 20 workers at the job site each day. During construction, all construction equipment and worker POVs would travel along Port Chicago Highway through the community of Bay Point to access MOTCO via the existing ACP #5. Port Chicago Highway would remain open to local traffic. Once on-site, all equipment and POVs would be parked within designated laydown and parking areas within the MOTCO boundary in order to avoid parking along Port Chicago Highway near Bay Point. Construction crews would use the City of Concord's designated truck routes and obtain special permits from Contra Costa County, as required.

Traffic impacts related to construction of a new ACP would be short-term in nature, would last approximately 52 weeks (12 months), and would likely be distributed evenly throughout normal working hours. Table 3-6 summarizes the anticipated number of trips associated with construction of the proposed ACP.

Table 3-6. Anticipated Trips for Construction of the Proposed ACP

Type of Construction-Related Truck Trip	Number of Trips
Concrete Mixer	88
Dump Truck	298
Asphalt Truck	132
Worker POVs[1]	3,100
Number of Total Trips for ACP Construction	3,618
Average Number of Total Trips per Week[2]	69.5
Average Number of Total Trips per Day[1]	13.9

[1]Assumed a 5-day workweek (i.e., no weekend work needed).
[2]Assumes equal distribution over the entire construction period (i.e., 52 weeks).

Once the ACP is constructed, all mission-related traffic would be shifted from ACP #2 to the new ACP. General installation support traffic (e.g., maintenance, repair, and delivery trips), which is estimated to be up to 4 trucks per year, would also use the new ACP and would have a negligible impact on the LOS along Port Chicago Highway through the community of Bay Point

During annual missions, MOTCO's total truck volume using the new ACP would be approximately 258 trucks. Missions would typically take place for up to 36 days each year. Increases in truck traffic would be intermittent and would equate to an additional 7 trucks per day for each of the 36 days associated with the mission. Once the mission is completed, it is estimated that non-mission truck traffic would be no greater than 4 trucks per year for general installation support.

Approximately 80 personnel would be present each day for contracted terminal operations and as stevedore personnel during a mission. On a daily basis for up to 36 days each year, personnel would drive POVs through Bay Point on Port Chicago Highway. The POV traffic would be intermittent and would only occur during missions. Once a mission is completed, no more than 5 POVs would be expected to use the proposed ACP on a daily basis to access the Tidal Area. In addition to POVs, up to 4 GOVs could use the new ACP on a daily basis.

Based on the current LOS provided by Port Chicago Highway through the community of Bay Point, the additional MOTCO traffic would have a negligible effect on the LOS along Port Chicago Highway in general. However, there is one intersection in Bay Point, at Port Chicago Highway and Pacifica Avenue (see Figure 3-6), that currently has an unacceptable LOS of E during morning hours. Congestion at this intersection is created by school-related traffic in the mornings Monday through Friday.

The minor traffic increase associated with the Preferred Alternative could cause further congestion at the intersection. MOTCO is committed to being a good steward and maintaining a safe environment for its neighboring communities, including Bay Point. As such, even though the MOTCO-related traffic through Bay Point would not likely result in any major impacts on

traffic in the community, MOTCO has agreed to work with its mission trucking companies to place restrictions on delivery times during morning hours on school days, where practicable.

No changes to the area mass transit, rail transport, or water transport would occur with implementation of the Preferred Alternative. However, once the new ACP is constructed, mission-related truck and traffic delays would be resolved, which could indirectly provide beneficial impacts on the efficiency with which water transport operations are completed.

3.6.2.1.2 Utilities

The Preferred Alternative would require relocation/modification of aerial communication lines (PG&E and AT&T) that run along the highway. The new ACP corridor would cross over an existing Shell high-pressure nitrogen gas line that runs along the edge of Port Chicago Highway pavement. This pipeline would remain and would be protected in place. Existing water and sewer would be extended from the existing infrastructure to the proposed ACP. Electrical power is already present at the proposed site; however, a new transformer would be installed to meet the increased demand for electricity. Two new fiber-optic cables (one for communications and one for security) would be extended from existing telecommunication lines to the proposed ACP. The extended telecommunications line would be installed within existing conduit and road right-of-ways. Although not yet implemented, this action is planned regardless of whether a new ACP is constructed. As such, details of the extension of the two fiber-optic cables are not discussed and environmental impacts are not analyzed in this EA. A future NEPA document (e.g. Categorical Exclusion [CX]) will be prepared for this action.

To the maximum extent possible, at least 50 percent of non-hazardous solid waste generated through construction of the ACP would be diverted in accordance with EO 13423, EO 13514, CAL Green requirements, and the City of Concord's construction and demolition materials ordinance. Overall, the proposed ACP would result in negligible impacts on utilities at MOTCO and in the area.

The Preferred Alternative could indirectly benefit the community of Bay Point and help to lessen the impact of illegal solid waste dumping along Nichols Road near the new ACP since the Army would have a 24-hour security presence, seven days a week.

3.6.2.2 Alternative 2

Alternative 2 would have similar impacts on transportation and utilities infrastructure as Alternative 1 (Preferred Alternative) however, with a smaller project footprint and likely shorter construction duration, construction related traffic could be slightly less under Alternative 2. As with Alternative 1 (Preferred Alternative), MOTCO would work with its mission trucking companies to place restrictions on delivery times during morning hours on school days, where practicable.

3.6.2.3 No Action Alternative

Under the No Action Alternative, the Army would not construct a new ACP. ACP #2 would continue to be used for the entrance of all truck traffic into the Tidal Area during missions and for installation support and for all required truck inspections. Current operational inefficiencies,

truck queuing, and traffic congestion would continue on Port Chicago Highway near ACP #1. Since no new construction would occur, no impacts on utilities infrastructure at MOTCO would be expected.

3.7 VISUAL RESOURCES

3.7.1 Existing Conditions

There are two viewsheds at MOTCO that offer visual diversity that is relatively rare in terms of color, line, and form. The first is MOTCO's marshlands and waterfront viewsheds that provide views of Suisun Bay and views of the environmentally sensitive Hastings Marsh Area. The second is the Medanos Hills, which provide the rolling grassland-covered background views for MOTCO and the surrounding area. Both viewsheds are minimally disrupted by existing MOTCO development and activities. Both of these viewsheds contribute to the visual environment of the Port Chicago Naval Magazine National Memorial, which has unique visual elements designed by the NPS to commemorate the site of the July 17, 1944, explosion.

While MOTCO personnel are the main viewers of the visual environment at MOTCO, sensitive viewers include those who visit the Port Chicago Naval Magazine National Memorial, nearby residents in Clyde, Bay Point, and Pittsburg, as well as users of the Del Diablo Golf Course located near MOTCO's Main Gate. However, views from these locations are largely screened or obstructed by intervening vegetation and topography.

As previously mentioned, there are a number of deteriorated facilities throughout the installation. These facilities degrade the aesthetics and vitality of the built environment. Furthermore, minimal Installation Design Guidance (IDG) elements from the Final 2014 IDG and from the January 2016 MOTCO Installation Planning Standards (IDP) have been previously incorporated into development at MOTCO, resulting in a lack of uniformity in visual elements, including building materials, architectural design, signage, and landscaping throughout the installation.

3.7.2 Environmental Consequences

3.7.2.1 Alternative 1 (Preferred Alternative)

Under the Preferred Alternative, construction of a new ACP would be consistent with MOTCO's installation-wide program for new construction and demolition outlined in the RPMP and would improve the visual character of the built environment for MOTCO personnel and visitors. The Preferred Alternative is sited on MOTCO property at a location that would not impact the Port Chicago Naval Magazine National Memorial viewshed, or views of Suisun Bay or Los Medanos Hills. With implementation of the Preferred Alternative, negligible impacts on the visual resources at MOTCO and in the area would be expected. The Preferred Alternative could, however, indirectly benefit visual resources, particularly for the community of Bay Point, if the ACP and Army security presence help to lessen the impact of illegal solid waste dumping along Nichols Road.

3.7.2.2 Alternative 2

Alternative 2 would have similar impacts on visual resources as Alternative 1 (Preferred Alternative).

3.7.2.3 No Action Alternative

Under the No Action Alternative, no changes to visual resources would be expected. The potential benefits to the visual resources under the Preferred Alternative would not occur.

3.8 NOISE

3.8.1 Existing Conditions

Noise is generally described as unwanted sound, which can be based either on objective effects (i.e., hearing loss, damage to structures) or subjective judgments (e.g., community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB. The A-weighted decibel (dBA) is a measurement of sound pressure adjusted to conform to the frequency response of the human ear. The dBA metric is most commonly used for the measurement of environmental and industrial noise.

Noise levels occurring at night generally produce a greater annoyance than do the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA louder than the same level of intrusive noise during the day, at least in terms of its potential for causing community annoyance. This perception is largely because background environmental sound levels at night in most areas are also about 10 dBA lower than those during the day.

Long-term noise levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the Day/Night Average Noise Level (DNL). DNL is the community noise metric recommended by the USEPA and has been adopted by most federal agencies. A DNL of 65 dBA is the level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like construction.

As a general rule, noise generated by a stationary noise source, or “point source,” will decrease by approximately 6 dBA over hard surfaces and 9 dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 85 dBA at a reference distance of 50 feet over a hard surface, then the noise level would be 79 dBA at a distance of 100 feet from the noise source, 73 dBA at a distance of 200 feet, and so on.

3.8.1.1 Construction Noise

New construction assumes standard construction and demolition practices, including the use of some heavy equipment over a temporary period. Construction-related noise emissions from the types of equipment that would be used to implement either action alternative would range from 79 to 85 dBA when measured 50 feet from the respective piece of equipment (Federal

Highway Administration 2016). Construction noise is modeled using the Federal Highway Administration's Road Construction Noise Model Version 1.1, which was developed to calculate noise levels emanating from various types of construction equipment. Although developed initially for road construction, the equipment types and noise calculations apply to any type of construction activity.

3.8.1.2 Operational and Mission-Related Noise

MOTCO conducted a noise measurement survey (Appendix C) on August 2, 2016, through August 6, 2016. The objective of the noise measurement survey was to establish a baseline noise level for missions and for use in comparing alternatives in this EA. The primary focus of the noise measurement survey was to collect and calculate the DNL at four specific locations, so that noise generated by the mission near ACP #1 and ACP #2, as well as the existing ambient noise near ACP #5 could be determined. The findings from the noise measurement survey provide context of mission and background noise levels in which any changes in modeled noise exposure resulting from the action alternatives can be considered.

Noise measurement equipment was installed at four locations on MOTCO property during a mission to continuously record for at least 72 hours. The noise measurement survey focused on collecting a sample of noise data at four strategic locations that were directly related to the alternatives evaluated in this EA (Figure 3-7).

Key components used in selecting the noise measurement locations included the following:

- Areas where mission noise sources are located
- Areas that could potentially be subject to noise associated with the action alternatives
- Noise-sensitive areas (e.g., nearby residences)

In particular, Location 1 was selected because of its proximity to ACP #1 and because it is also near the area where trucks entering MOTCO are currently inspected. Location 2 was selected because of its proximity to ACP #2, where trucks pass through on the way to the mission. Location 3 was selected because of its proximity to ACP #5 where the proposed ACP would be located. Location 4 was selected because of its proximity to the community of Bay Point adjacent to Port Chicago Highway, the route of trucks bound for the proposed ACP.

The following paragraphs provide both qualitative descriptions and quantitative analysis for each measurement location. First, location descriptions are given based primarily on qualitative observations made by the acoustical engineer who was on-site performing checks at each location during the noise measurement period. Second, the quantitative results are presented for each day of the noise measurement survey at each location.

DNL for each day at each location was directly calculated using the collected 1-second dBA data. The maximum number of continuous 24-hour periods measured at each site was used, beginning with the first full hour of measurement for each phase. For additional detailed noise measurement survey information, see Appendix C.

Figure 3-7. Noise Measurement Locations at MOTCO

Location 1

Location 1 was at ACP #1, which is near the intersection of Kinne Boulevard and Port Chicago Highway and adjacent to MOTCO's VCC. Land use in the vicinity of ACP #1 is developed for military use, and the nearest residence in the community of Clyde is approximately 758 feet north of ACP #1. The primary sources of noise associated with Location 1 were truck and POV traffic associated with the mission and general traffic entering and exiting MOTCO's VCC. Throughout the measurement period, POVs passed Location 1 as they traveled along Port Chicago Highway to and from the community of Clyde. Wildlife, especially birds, occasionally made noise. Table 3-7 provides a summary of the DNL calculated during the noise measurement survey at Location 1.

Table 3-7. DNL Values at Location 1

Noise Measurement Period	Measured DNL (dBA)
August 2-3, 2016	61.5
August 3-4, 2016	63.2
August 4-5, 2016	63.9
August 5-6, 2016	63.2
Overall Average DNL	63.0

Source: BridgeNet International 2016 (Appendix C)

Location 2

Location 2 was at ACP #2 along Port Chicago Highway near the intersection with Taylor Boulevard. ACP #2 is the main entrance for all truck traffic entering MOTCO bound for the Tidal Area as part of the mission. Land use in the vicinity of ACP #2 is developed for military use, and the nearest residence in the community of Clyde is approximately 168 feet east of ACP #2.

The primary sources of noise associated with Location 2 were truck and POV traffic associated with the mission. Throughout the measurement period, POVs passed Location 2 as they traveled along Port Chicago Highway to and from the community of Clyde. Wildlife, especially birds, occasionally made noise. Table 3-8 provides a summary of the DNL calculated during the noise measurement survey at Location 2.

Table 3-8. DNL Values at Location 2

Noise Measurement Period	Measured DNL (dBA)
August 2-3, 2016	61.8
August 3-4, 2016	63.0
August 4-5, 2016	60.8
August 5-6, 2016	59.7
Overall Average DNL	61.3

Source: BridgeNet International 2016 (Appendix C)

Location 3

Location 3 was at ACP #5 at the intersection of Port Chicago Highway and Nichols Road. ACP #5 is currently unmanned and remains closed during missions. Land use in the vicinity of ACP #5 is developed for industrial and residential use. General Chemical is located approximately 735 feet north of ACP #5, and the closest residence along Nichols Road is 0.8 mile away.

During the noise measurement period, no military-related actions at or near Location 3 contributed to the ambient noise level. The primary sources of noise associated with Location 3 were POV traffic associated with Port Chicago Highway and truck traffic associated with the commercial industries, including General Chemical, along Port Chicago Highway. Throughout the measurement period, POVs passed nearby Location 3 as they traveled along Port Chicago Highway, including residents coming to and from homes on Nichols Road. Truck traffic arriving and departing from the commercial industries nearby also contributed to the noise recorded at Location 3. Noise from nearby freight railroad and Amtrak lines could also be heard. Wildlife, especially birds, occasionally made noise. Table 3-9 provides a summary of the DNL calculated during the noise measurement survey at Location 3.

Table 3-9. DNL Values at Location 3

Noise Measurement Period	Measured DNL (dBA)
August 2-3, 2016	73.0
August 3-4, 2016	70.4
August 4-5, 2016	64.5
Overall Average DNL	69.3

Source: BridgeNet International (Appendix C)

Location 4

Location 4 was along Port Chicago Highway adjacent to residences in Bay Point. Land use in the vicinity is industrial and residential. General Chemical is located approximately 1.0 mile north of the noise measurement location, and the nearest residence in the community of Bay Point is approximately 56 feet west of Location 4. Rio Vista Elementary, Shore Acres Elementary, and Riverview Middle schools are all located within 1.0 mile of Location 4. A mosque, the Ahmadiyya Muslim Community East Bay, is also located within 1.0 mile of Location 4.

During the noise measurement period, no military-related actions at or near Location 4 contributed to the ambient noise level. The primary sources of noise associated with Location 4 were POV traffic associated with Port Chicago Highway and truck traffic associated with the commercial industries, including General Chemical, along Port Chicago Highway.

Throughout the measurement period, POVs passed Location 4 as they traveled along Port Chicago Highway. Truck traffic arriving and departing from the commercial industries nearby also contributed to the noise recorded at Location 4. To a lesser degree, noise from nearby freight railroad and Amtrak lines could also be heard. Wildlife, especially birds, occasionally

made noise. Table 3-10 provides a summary of the DNL calculated during the noise measurement survey at Location 4.

Table 3-10. DNL Values at Location 4

Noise Measurement Period	Measured DNL (dBA)
August 2-3, 2016	69.7
August 3-4, 2016	67.0
August 4-5, 2016	69.6
Overall Average DNL	68.8

Source: BridgeNet International 2016 (Appendix C)

Summary of Noise Measurement Survey Results

The noise measurement survey was conducted to provide a sample of real field noise levels at four locations on MOTCO property. Table 3-11 provides a summary of the noise levels recorded during the measurement period for each location. Table 3-12 provides a summary of the sensitive noise receptors that must be considered when analyzing noise impacts in the EA. The table outlines sensitive noise receptors, the nearest source noise/noise measurement location, the distance from each receptor to the closest source noise/noise measurement location, maximum DNL noise levels at the source/measurement location, and the attenuated DNL noise level experienced at the actual receptor.

Table 3-11. MOTCO Noise Measurement Survey Summary

Site	Measured DNL (dBA)
Location 1	63.0
Location 2	61.3
Location 3	69.3
Location 4	68.8

Source: BridgeNet International 2016 (Appendix C)

Table 3-12. Sensitive Noise Receptors near Noise Measurement Locations at MOTCO

Sensitive Noise Receptor	Nearest Source Noise/ Measurement Location	Distance from Source Noise/ Measurement Location (feet)	Source Noise Level (dBA)	Noise Level at Receptor (dBA)
Residential Home	Location 1	758	63.9	42.1
Residential Home	Location 2	168	63.0	47.7
Residential Homes	Location 4	56	69.7	65.7
Rio Vista Elementary School	Location 4	2,698	69.7	42.9
Shore Acres Elementary School	Location 4	2,071	69.7	44.0
Riverview Middle School	Location 4	3,104	69.7	42.3
Ahmadiyya Muslim Community East Bay	Location 4	2,722	69.7	42.8

Source: BridgeNet International 2016 (Appendix C)

Under NEPA, a proposed project is compared with the baseline scenario, or the No Action Alternative, to determine if noise impacts would occur. That is, the proposed project causes an impact when it changes the noise level compared to the No Action condition. Changes that are less than 3 dBA are considered negligible under NEPA because they are barely perceptible to the human ear.

3.8.2 Environmental Consequences

3.8.2.1 Alternative 1 (Preferred Alternative)

Construction Noise

Construction of the proposed ACP would require the use of common construction equipment. Table 3-13 describes noise emission levels expected for equipment during construction of the ACP.

Table 3-13. Noise Levels (dBA) of Construction Equipment and Modeled Attenuation at Various Distances[1]

Noise Source	50 feet	100 feet	200 feet	500 feet	1000 feet
Bulldozer	85	79	73	65	59
Dump truck	84	78	72	64	58
Water Pump	76	70	64	56	50
Concrete Mixer Truck	79	73	67	59	53
Roller	80	74	68	60	54
Grader	85	79	73	65	59
Crane	81	75	69	61	55
Excavator	81	75	69	61	55
Front-end loader	79	73	67	59	53

Source: FHWA 2016
[1]The dBA at 50 feet is a measured noise emission. The 100- to 1,000-foot results are GSRC modeled estimates.

Under the Preferred Alternative, the closest residential noise receptors that may experience temporary noise intrusion are located approximately 0.65 mile (3,432 feet) away from the proposed ACP construction site. At this distance from the noise source, residents would not experience noise at levels from construction equipment that equal or exceed 65 dBA. Moreover, noise generated by the construction activities would be intermittent and last for approximately 12 months, after which noise levels would return to ambient levels. Therefore, noise associated with the construction of the proposed ACP would not adversely affect sensitive receptors since the noise would attenuate to ambient background noise levels, and the noise impacts from construction activities would be considered negligible.

Operational Mission-Related Noise

MOTCO's noise measurement survey collected at least 3 days of noise-level data at four locations on MOTCO property. Noise measurements recorded at Location 1 and Location 2 were used to determine noise levels associated with a typical MOTCO mission. Noise

measurements recorded at Location 3 and Location 4 were used to determine baseline noise levels, which represent the noise levels under the No Action Alternative. The DNL noise levels at Location 1 and Location 2 generated by the mission and ambient noise sources were as high as 63.9 dBA and 63.0 dBA, respectively. The baseline ambient DNL noise levels at Location 3 and Location 4 were as high as 73.0 dBA and 69.7 dBA, respectively. These findings provide the worst-case noise levels for which any changes in modeled noise exposure resulting from operation of the proposed ACP can be considered.

In order to determine the noise impact associated with truck traffic traveling along Port Chicago highway arriving at and leaving from the proposed ACP, the increase in ambient noise levels was modeled. Under the Preferred Alternative, daily noise levels and truck noise levels associated with missions at Location 3, which is the location of existing ACP #5, were modeled to be potentially as high as 73.5 dBA, which is an increase from the baseline ambient noise level of approximately 0.5 dBA. Under the Preferred Alternative, daily truck noise levels associated with missions at Location 4, which near residences along Port Chicago Highway, were modeled to be potentially as high as 70.7 dBA, which is an increase from the baseline ambient noise level of approximately 1.0 dBA. Therefore, with implementation of the Preferred Alternative, the change in noise due to the operation of the ACP and mission-related truck traffic would be less than 3 dBA, and impacts on the community would be negligible.

3.8.2.2 Alternative 2

Alternative 2 would have similar impacts on noise as Alternative 1 (Preferred Alternative).

3.8.2.3 No Action Alternative

Under the No Action Alternative, no new ACP would be constructed. No additional construction or mission-related noise would be generated; therefore, no noise impacts would occur.

3.9 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

3.9.1 Existing Conditions

This socioeconomics analysis outlines the basic attributes of population and economic activity within the region of influence (ROI) for MOTCO and vicinity. A discussion of Environmental Justice and the protection of children is also included in this analysis. The ROI for socioeconomics is Contra Costa County. Data are also provided for the communities of Bay Point and Clyde and for Census Tracts 3142, 3150, 3141.03, and 3141.04 (Figure 3-8).

There are approximately 68 contractors, tenants, and government personnel at MOTCO on a daily basis (MOTCO 2016), most of whom work within the Inland Area. During a mission, approximately 80 personnel are present for contracted terminal operations and as stevedore personnel. In addition, there are 10 personnel at MOTCO on a daily basis associated with the Army Reserve Center, and during drill weekends the weekend population could be 200 to 300 reservists (Army 2015).

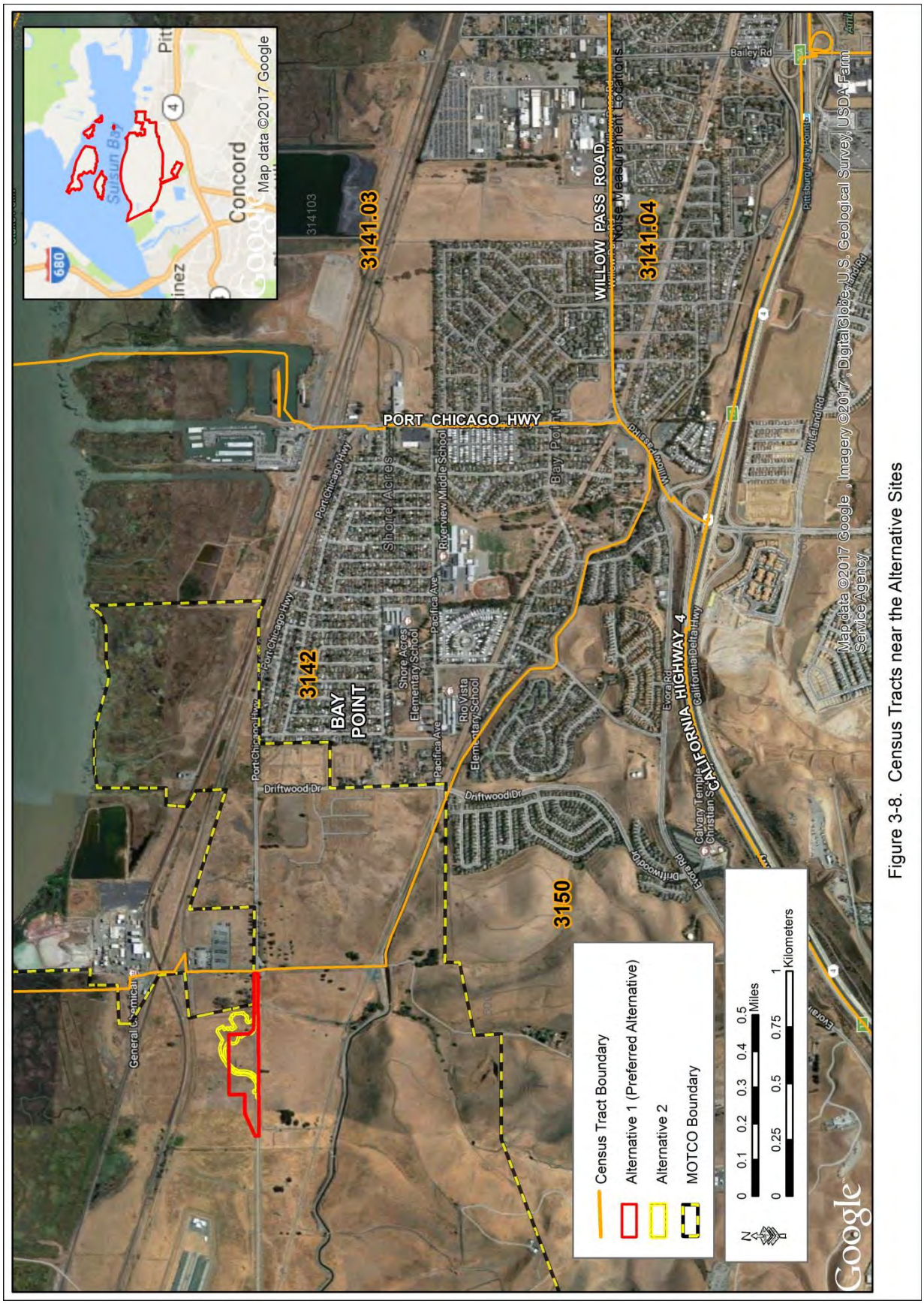

Figure 3-8. Census Tracts near the Alternative Sites

3.9.1.1 Population Demographics

Population data from the U.S. Census Bureau show that the populations of Bay Point, Clyde, and Census Tracts 3142 and 3141.04 remained essentially the same from 2000 through 2014, with the population of Census Tract 3150 declining at an average annual rate of 1.0 percent during that time period. From 2000 through 2014, the average annual population growth rate in Contra Costa County (1.0 percent) has been approximately the same as California (0.9 percent) and the U.S. (0.8 percent) (Table 3-14).

Table 3-14. Population

Geographical Area	2000	2014	Average Annual Growth Rate from 2000 to 2014 (Percent)
Contra Costa County	948,816	1,081,232	1.0
Bay Point	21,534	21,586	0.0
Clyde	694	680	-0.1
Census Tract 3142	6,270	6,522	0.3
Census Tract 3150	3,596	3,099	-1.0
Census Tract 3141.03	5,468	5,912	0.6
Census Tract 3141.04	7,272	7,343	0.1
California	33,871,648	38,066,920	0.9
United States	281,421,906	314,107,084	0.8

Sources: U.S. Census Bureau 2000 and 2015a

Race and ethnicity data (Table 3-15) show that the region around MOTCO is heavily minority. The Bay Point community and Census Tracts 3142, 3141.03, and 3141.04 have 80 percent or greater minority populations. The minority populations in Census Tracts 3142, 3141.03, and 3141.04 are heavily Hispanic.

Table 3-15. Race and Ethnicity (Percent)

Geographic Area	White Not Hispanic	Black or African American	Asian	Hispanic	American Indian and Alaska Native	Total Minority
Contra Costa County	47	11	18	25	2	53
Bay Point	20	16	11	56	1	80
Clyde	57	12	16	11	12	43
Census Tract 3142	13	6	9	75	0	87
Census Tract 3150	63	8	15	15	6	37
Census Tract 3141.03	8	23	15	54	2	92
Census Tract 3141.04	20	20	10	53	0.4	80
California	39	7	15	38	2	61
United States	63	14	6	17	2	37

Source: U.S. Census Bureau 2015a

The median household incomes for Contra Costa County and Census Tract 3150 are well above the U.S. average (149 and 158 percent, respectively); however, median household incomes for Bay Point, Clyde, and Census Tracts 3142, 3141.03, and 3141.04 are well below the national average (Table 3-16).

Table 3-16. Median Household Income and Poverty

Geographic Area	Median Household Income	Percent of U.S.	All Ages in Poverty 2014 (Percent)
Contra Costa County	$79,799	149	10.7
Bay Point	$41,749	78	28.3
Clyde	$41,382	77	19.9
Census Tract 3142	$42,949	80	28.1
Census Tract 3150	$84,474	158	12.2
Census Tract 3141.03	$42,662	80	30.6
Census Tract 3141.04	$35,430	66	32.9
California	$61,489	115	16.4
United States	$53,482	100	15.6

Source: U.S. Census Bureau 2015b

Poverty data show that while the poverty rate in Contra Costa County (10.7 percent) is below the poverty rates for California (16.4 percent) and the U.S. (15.6 percent), the poverty rates in most of the areas around MOTCO are high compared to the county, California, and the U.S. Poverty rates for Bay Point (28.3 percent), Clyde (19.9 percent), and Census Tracts 3142, 3141.03, and 3141.04 (28.1, 30.6, and 32.9 percent, respectively) are approximately two to three times the poverty rate for Contra Costa County.

Census data on the level of educational attainment of the population age 25 and older (Table 3-17) shows that as a whole, the population of Contra Costa County is well educated. Eighty-nine percent of the population of Contra Costa County have a high school credential, and 39 percent have a Bachelor's degree or higher. Those percentages are higher than for California and the U.S. Three of the census tracts in the vicinity of MOTCO (Census Tracts 3142, 3141.03, and 3141.04) have much lower rates of educational attainment, while in Census Tract 3150, 97 percent of the citizens age 25 and older have a high school credential.

Table 3-17. Educational Attainment (population 25 years and older)

Geographic Area	High School Credential or Higher (Percent)	Bachelor's Degree or Higher (Percent)
Contra Costa County	89	39
Bay Point	69	15
Clyde	98	17
Census Tract 3142	58	8
Census Tract 3150	97	32
Census Tract 3141.03	73	16

Table 3-17, continued

Geographic Area	High School Credential or Higher (Percent)	Bachelor's Degree or Higher (Percent)
Census Tract 3141.04	67	13
California	82	31
United States	86	29

Source: U.S. Census Bureau 2015c

3.9.1.2 Labor Force and Employment

The average annual labor force in Contra Costa County in 2014 was 544,022. The unemployment rate was 6.2 percent, which is well below the 7.5 percent annual average unemployment rate for California (2014) and equal to the 2014 annual average unemployment rate of 6.2 percent for the U.S. (U.S. Bureau of Labor Statistics 2015a and 2015b).

Employment by industry data show that the census tracts in the vicinity of MOTCO have less manufacturing (U.S. Census 2015b) than California and the U.S. Census Tracts 3142 and 3141.03 have rates of employment in Professional, Scientific, and Management jobs at approximately double the rate for California and the U.S.

3.9.1.3 Schools

The Mount Diablo Unified School District, one of 18 public school districts serving Contra Costa County, is the school district serving areas around MOTCO. There are 30 elementary, 9 middle, and 5 high schools in the district; 3 schools of which are located in areas immediately adjacent to MOTCO. These schools, located in Bay Point, include Rio Vista Elementary, Shore Acres Elementary, and Riverview Middle schools. Bel Air Elementary School is also located in Bay Point near California Highway 4, approximately 4.1 miles from the MOTCO boundary.

3.9.1.4 Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was signed on February 11, 1994, by President Clinton. The EO directs federal agencies to make achieving environmental justice part of their missions by identifying and addressing, as appropriate, disproportionately high adverse human health, environmental, economic, and social effects of their programs, policies, and activities on minority and/or low-income populations. A Presidential Transmittal Memorandum issued with the EO states that "each federal agency shall analyze the environmental effects, including human health, economic and social effects, of federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA, 42 U.S.C. Section 4321, et seq.". DoD has directed that NEPA will be used to implement the provisions of the EO.

Analysis of demographic data on race and ethnicity and poverty provides information on minority and low-income populations that could be affected by the action alternatives. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, Pacific Islander, or Other. Poverty status is used to define "low-income: for the U.S.". Poverty is defined as the number of people with income below poverty level, which was $24,257 for a family of four in 2015, according to the U.S. Census

Bureau (U.S. Census Bureau 2016). A potential disproportionate impact may occur when the minority in the study area exceeds 50 percent or when the percent minority and/or low-income in the study area are meaningfully greater than those in the region.

The populations living in Census Tracts 3142, 3141.03, and 3141.04 are more than 50 percent minority and have poverty rates that are more than double the poverty rate for Contra Costa County (Table 3-18); therefore, adverse impacts that extend beyond the MOTCO property boundary are evaluated for potential disproportionate impacts on these populations.

Table 3-18. Minority and Poverty (2014)

	Minority (Percent)	All Ages in Poverty (Percent)
Contra Costa County	53	10.7
Bay Point	80	28.3
Clyde	43	19.9
Census Tract 3142	87	28.1
Census Tract 3150	37	12.2
Census Tract 3141.03	92	30.6
Census Tract 3141.04	80	32.9
California	61	16.4
United States	37	15.6

Source: U.S. Census Bureau 2015b

As previously mentioned, the Bay Point community was awarded an Environmental Justice grant by the USEPA in 2007 (USEPA 2009b). Bay Point was one of 48 communities nationwide to receive a Community Action for Renewed Environment (CARE) grant through a partnership with the USEPA and University of San Francisco and in cooperation with the Centers for Disease Control and Prevention. The purpose of the grant was to foster an innovative way for a community to organize and become more aware of the problems related to toxic chemicals in the community and possible solutions to this concern.

In a USEPA Level 1 Grantee Final Report, Contra Costa County was noted as having the "highest concentration of oil refineries and chemical factories in California, and residents of Bay Point are exposed to multiple sources of toxic pollution" (USEPA 2009a). In this report, it was noted that the residents are subject to chronic exposures to a number of air toxics such as ammonia, nickel, and diesel exhaust due to the fact that California Highway 4, which runs adjacent to Bay Point, and serves as an access route to MOTCO, carries a large volume of cars and trucks per day (USEPA 2009a). Projects that would increase the amount of vehicular traffic, especially truck traffic, would have to consider the environmental justice aspects of any projected increase on the residents of Bay Point (Army 2015).

3.9.1.5 Protection of Children

The potential for impacts on the health and safety of children is greater where projects are located near residential areas. EO 13045 requires each federal agency "to identify and assess

environmental health risks and safety risks that may disproportionately affect children" and "ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." This EO was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. Both alternative sites are located approximately 0.65 mile from the nearest residence. There are also residences and schools located near the proposed truck route along Port Chicago Highway.

3.9.2 Environmental Consequences

3.9.2.1 Alternative 1 (Preferred Alternative)

There are four Census Tracts (3141.03, 3141.04, 3142, and 3150) located in the vicinity of MOTCO (see Figure 3-7). While the proposed ACP would be located within Census Tract 3150, Census Tracts 3142, 3141.03, and 3141.04 include the residences, businesses, and schools that could potentially be impacted by activities at the proposed ACP.

During construction, temporary minor direct beneficial impacts could occur if local companies are hired to construct the proposed ACP or construction materials are purchased locally. Temporary minor indirect benefits could occur if construction workers passing through Bay Point to work at proposed ACP purchase local goods or eat at local restaurants.

Implementation of the Preferred Alternative would not result in any changes in permanent direct employment in the region, so there would be no impacts on population, incomes, schools, or businesses. Minor, beneficial impacts could occur as a result of additional purchases from local businesses by employees working at the proposed ACP and from stevedores working during missions once the ACP is constructed.

As discussed previously in Section 3.6.1.1, there would be additional traffic associated with the proposed ACP. However, construction-related traffic impacts would be temporary. Once constructed, traffic related impacts associated with the ACP would only occur during missions, which take place, on average, 36 days each year, and would only add up to 258 additional trucks to the roadway annually. In addition to truck traffic, 80 POVs would drive through Bay Point on Port Chicago Highway. The POV traffic would be intermittent and would only occur during missions. Once a mission is completed, no more than 5 POVs would be expected to use the proposed ACP on a daily basis. In addition to POVs, up to 4 GOVs could use the new ACP on a daily basis.

There are minority and low-income populations living in the Bay Point community and Census Tracts 3142, 3141.03, and 3141.04, as the poverty rates in each are more than double the poverty rate for Contra Costa County and the populations are more than 50 percent minority. With precautionary measures in place to account for the minor additional traffic expected in Bay Point, there would be no disproportionately high adverse human health, economic, or social effects on minority or low-income populations or children as a result of the Preferred Alternative.

3.9.2.2 Alternative 2

Alternative 2 would have similar impacts on socioeconomics and environmental justice as Alternative 1 (Preferred Alternative).

3.9.2.3 No Action Alternative

Under the No Action Alternative, a new ACP would not be constructed, so there would be no adverse impacts on the population living in the census tracts in the vicinity of MOTCO. There would be no disproportionately high or adverse impacts on minority or low-income populations or children with the implementation of the No Action Alternative.

3.10 HAZARDOUS MATERIALS AND WASTE

3.10.1 Existing Conditions

3.10.1.1 Hazardous Materials

A hazardous material is defined in 29 CFR Section 1910.120(a)(3) as "any substance that is 1) listed in Section 101 (14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); 2) designated as a biologic agent and other disease causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction), or physical deformations in such persons or their offspring; 3) listed by the U.S. Department of Transportation as hazardous materials under 49 CFR Section 172.101 and appendices; or 4) defined as a hazardous waste per 40 CFR Section 261 .3 or 49 CFR Part 171". Hazardous materials are federally regulated by the USEPA in accordance with the Federal Water Pollution Control Act; CWA; Toxic Substance Control Act (TSCA); Resource Conservation Recovery Act (RCRA); CERCLA; and Clean Air Act.

Hazardous materials are generally in use at MOTCO for the maintenance of buildings, facilities, vehicles, and equipment. In order to fulfill its mission, MOTCO also stores and transports hazardous materials, including munitions, as required by Army activities. Common hazardous substances used on the installation include POL such as motor oils, hydraulic fluids, diesel fuel, and motor gasoline; paints; sealants; solvents; antifreeze; and batteries. MOTCO governs the handling of hazardous materials and hazardous waste through the Hazardous Waste Management Plan (HWMP) (MOTCO 2012). The HWMP describes the hazards and techniques associated with hazardous materials /hazardous waste handling specific to MOTCO activities so that personnel will be better able to protect their health, prevent damage to the environment, and comply with applicable laws, regulations, and policies.

The MOTCO Hazardous Material Management Program (HMMP) reduces waste generation from overstocked or expired product and enhances regulatory compliance by limiting the amount of hazardous materials stored onsite. The MOTCO Department of Public Works (DPW) Environmental Compliance Manager (ECM) tracks the hazardous materials used on the installation; all hazardous materials must be approved by and registered with the ECM. The

ECM maintains an activity-wide hazardous materials inventory and provides a copy to the MOTCO Fire Department. POL may be stored within a flammables locker at work locations in accordance with material requirements and the MOTCO HWMP, but most other hazardous materials and hazardous waste is stored at one of the four Satellite Accumulation Points (SAPs) near to work locations.

The MOTCO Spill Prevention, Control, and Countermeasures (SPCC) Plan and the Oil and Hazardous Substance Spill Prevention and Response Plan (OHSSPRP) establish procedures, methods, equipment, and other criteria to prevent and respond to unintentional releases of oils or hazardous substances from onshore and offshore facilities (MOTCO 2013; OHSSPRP is Appendix A of the SPCC Plan). Releases requiring response include DoD and non-DoD spills occurring on the installation, off-site spills affecting the installation, and possibly other spills in the geographic area for which DoD assistance would be deemed appropriate. Hazardous substances include those involved in operations, processes, cargo, and hazardous waste. The SPCC Plan addresses on-installation storage locations and proper handling procedures of all POL and hazardous materials to minimize potential spills and releases at the point of use. The OHSSPRP further outlines activities to be undertaken to minimize the adverse effects in the incidence of a spill, including notification, containment, decontamination, and cleanup of spilled materials.

The MOTCO SWPPP addresses proper management of POL and hazardous materials at construction sites to reduce the potential for soil contamination and expediently address any spills or breaches of protective systems in accordance with applicable laws and regulations (Army 2017). The SWPPP has been developed to comply with California NPDES General Permit Requirements for Stormwater Discharges Associated with Industrial Activities. The Plan identifies industrial activities for each unit/activity located at MOTCO and the potential stormwater sources associated with those units/activities; it also establishes the BMPs designed to control pollutants in discharges of stormwater.

3.10.1.2 Hazardous Waste

Hazardous wastes, as defined by RCRA (42 U.S.C. 6903[5]), are wastes or combination of wastes that, because of quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. To be classified as a hazardous waste, material must first qualify as a solid waste. A solid waste is any material that is disposed of, incinerated, treated, or recycled except those exempted under 40 CFR Section 261.4.

Although the amount of hazardous waste disposed of fluctuates between calendar years, MOTCO is regulated as a Small Quantity Generator of hazardous waste as defined under RCRA. MOTCO disposed of 15.46 tons of hazardous waste in Calendar Year 2015, 10.50 tons in Calendar Year 2014, and 11.93 tons in Calendar Year 2013 (California Department of Toxic Substances 2016). Typically, the common hazardous waste generated at MOTCO includes

spent, contaminated, off-spec, or unrecyclable hazardous materials, although fluctuations and abnormal disposal requirements can be attributed to facility cleanup efforts.

The MOTCO DPW Environmental Division oversees hazardous waste management via the HWHP on behalf of the military units and activities that generate the waste (MOTCO 2012). There is no one central, designated hazardous waste storage area at MOTCO. All hazardous wastes are stored at the four SAPs, which are at or near the point of hazardous waste generation and are under the control of the operator generating the waste. SAPs are maintained to facilitate the collection of hazardous waste and to ensure that the wastes are transported off-post in accordance with applicable federal, state, and DoD regulations. Hazardous wastes may be stored at SAPs for no longer than 90 days before being transported offsite for recycling, treatment, or disposal. The transport and disposal of hazardous waste is arranged through contracts with appropriately licensed waste management and transportation companies. MOTCO recycles POL products (including waste oils and uncontaminated POL), various conventional batteries (including radio batteries, as well as lead-acid), and compressed gas cylinders.

3.10.1.3 Toxic Substances

The enactment of TSCA (15 U.S.C. 2601 et seq.) and the promulgation of its implementing regulations (40 CFR Parts 700-766) represented an effort by the federal government to address those chemical substances and mixtures for which it was recognized that the manufacture, processing, distribution, use, or disposal may present unreasonable risk of personal injury or health of the environment, and to effectively regulate these substances and mixtures in interstate commerce. The TSCA Chemical Substances Inventory lists information on more than 62,000 chemicals and substances. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics, and pesticides. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. 136 et seq.) registers and regulates pesticide use (40 CFR Parts 150-189).

Toxic chemical substances regulated by USEPA under TSCA and typically associated with buildings and facilities include asbestos, lead, mercury, and polychlorinated biphenyls (PCBs). The MOTCO DPW Environmental Division provides guidance for the location, condition, and recommended methods of managing toxic substances found throughout the installation. An installation asbestos register is maintained and updated regularly, including the type and the percentage of asbestos found in each type of material. Buildings and suspect materials are screened for fixtures that may contain toxic materials prior to demolition and disposal. Buildings are tested for lead-based paint (LBP) and PCB paint before maintenance or demolition, especially if they were built prior to 1978 when the federal government banned consumer uses of lead and PCBs in paint.

3.10.1.4 Contaminated Sites

The Defense Environmental Restoration Program (DERP) was developed by the DoD pursuant to legislation codified at 10 U.S.C. Section 2700 et seq., to identify, investigate, and remediate potentially hazardous material disposal sites on DoD property. As part of DERP, the DoD has created the Installation Restoration Program (IRP) and the Military Munitions Response

Program (MMRP). The IRP is designed to address the cleanup of hazardous substances on military installations. The MMRP addresses the challenges presented at sites called munitions response sites (MRS) that are located on other than operational ranges. Munitions responses are response actions, including investigation, removal actions, and remedial actions that address the explosives safety, human health, or environmental risks presented by munitions and explosives of concern (MEC). The DERP is implemented using the process developed for cleanup under the CERCLA legislation, including a series of eight steps that follow the accepted plan of action beginning with a site investigation and, if necessary, ending in the remediation/clean-up of the site. The eight steps, which range in length to completion, are as follows:

- Preliminary Assessment (PA)
- Site Inspection (SI)
- Remedial Investigation (RI)
- Feasibility Study (FS) I Record of Decision (ROD)
- Remedial Design (RD)
- Remedial Action (RA)
- Post RA: Remedy in Place (RIP); Response Complete (RC); Long-term Management (LTM)
- Site Closeout (SC)

Land Use Controls (LUC) are often established at terrestrial IRP and MMRP sites, and Navigation Controls at water sites, to afford continuous or interim protection at a site as DERP steps are implemented. The DoD's Policy on Land Use Controls Associated with Environmental Restoration Activities defines LUCs as any type of physical, legal, or administrative mechanism that restricts the use of, or limits access to, real property to prevent or reduce risks to human health and the environment (DoD 2001). The purpose of this policy is to select and implement LUCs that minimize the potential for human exposure to explosive hazards and to maintain the integrity of the MRS with respect to the current land use. All work would be conducted in accordance with the MOTCO installation-wide LUC Environmental Sampling and Results Screening for Excavation Projects (MOTCO 2014). This policy is part of the Land Use Control and Implementation Plan (LUCIP), which is an appendix to the RPMP that addresses avoidance of unexploded ordnance (UXO) and MEC at MOTCO.

3.10.1.5 Military Munitions Response Program

There are three MMRP MRS at MOTCO. For the MRS areas, land use restrictions include the prohibition, or otherwise careful management, of required excavation activities and the restriction of daycare, hospital, schools, or residential use in these areas. The Land Use Control Plans include the requirement to obtain dig permits and coordination with the MOTCO RPMP. However, there are no MRS located in the immediate vicinity of the action alternative sites.

During the Port Chicago explosion, objects were thrown over 2 miles (11,616 feet) away from the center of the blast, with most objects falling within 0.7 mile (3,696 feet) of the explosion site. To address the potential occurrence of MEC immediately following the 1944 explosion, the U.S.

Coast Guard surveyed the blast area around Pier 1, including marsh areas and nearby waters of Suisun Bay, by dragging bottom sediments and using divers to conduct surveys. Since that time, explosive ordnance disposal (EOD) area procedures have addressed discoveries and potential risk of MEC items in the bay, in marsh, and on the shoreline (MOTCO 2011c; NAVFAC 2003; USACE 2009). There have been no recorded unexpected explosive incidents since the original explosion in 1944 (NAVFAC 2003). Some MEC and UXO have been encountered in and safely removed from the upland Tidal Area (USACE 2009).

All construction activities that involve intrusive activities require UXO Construction Support in clearance of construction footprints, whether it is a building, roadway, or installation of utilities on the installation, prior to the construction activity taking place. An exception is provided when construction activities occur in an area where clearance activities have already been performed. In such cases, UXO Standby Support is used during construction activities.

3.10.1.6 Installation Restoration Program

Continuous military missions have taken place at MOTCO since the early 1940s. Over this period, waste disposal practices deemed appropriate at the time and accidental spills of hazardous substances led to the contamination of soils and groundwater in several locations throughout the installation. The IRP identified 32 potentially contaminated areas designated as IRP management sites; nine sites remain active in various DERP stages (USEPA 2012; MOTCO 2011c).

3.10.2 Environmental Consequences

3.10.2.1 Alternative 1 (Preferred Alternative)

Under the Preferred Alternative, negligible impacts from hazardous materials or waste would occur. Procedures for hazardous materials or waste, toxic substances, or contaminated site management would be followed during construction and operation of the proposed ACP. To minimize the potential for impacts from hazardous or regulated materials, all POL and solvents required to maintain the equipment used to implement the Preferred Alternative would be stored away from the construction zone. Any spill of such materials would be immediately reported to the MOTCO Fire Department, Department of Public Works, and ECM to ensure that response actions are appropriate and in accordance with MOTCO's SWPPP, SPCC Plan, and OHSSPRP.

To comply with UXO requirements, a meeting will be held with the contractors and representatives from the USACE and MOTCO DPW to discuss general conditions, work schedule, phasing, and coordination, security, safety, permits, and other matters pertinent to work accomplishments prior to the initiation of work. In addition, the contractor would be required to submit various plans including a UXO Anomaly Avoidance Plan I, Plan for UXO Support During Construction Activities; Environmental Protection Plan; Quality Control Plan, Hazard Analysis, and Safety/Health Plan. These plans will discuss safety protocols and notification requirements that will minimize any potential for adverse impacts. IRP sites 25, 26, 28, and 34 are located in the vicinity of the Preferred Alternative, as are two monitoring and IR wells, but would not be disturbed by construction or operation of the proposed ACP.

3.10.2.2 Alternative 2

Alternative 2 would have similar impacts on hazardous materials and waste as Alternative 1 (Preferred Alternative).

3.10.2.3 No Action Alternative

Under the No Action Alternative, no new ACP would be constructed, and no impacts on hazardous materials and waste would be expected. Operations at MOTCO would continue and all regulations and plans that pertain to hazardous materials or waste, toxic substances, or contaminated sites would continue to be followed.

3.11 HEALTH AND SAFETY

3.11.1 Existing Conditions

Occupational health and safety applies to on-the-job safety and implements the requirements of 29 CFR 1926 et seq. All construction and demolition at MOTCO is performed in accordance with applicable Occupational Safety and Health Administration (OSHA) regulations to protect human health and minimize safety risks and are coordinated between contractors and the Safety Office prior to initiation of construction and demolition activities.

Large portions of the MOTCO are within the IBD ESQD arc. As such, all buildings are required to conform to the design and construction requirements to protect personnel within inhabited structures per DoD Manual 6055.09-STD DoD *Ammunition and Explosives Safety Standards* and UFC 3-340-02 *Structures to Resist the Effects of Accidental Explosions*. DoD Manual 6055.09-STD establishes safety standards designed to manage risks associated with ammunition and explosives by providing protection criteria to minimize serious injury, loss of life, and damage to property. This Manual also requires submitting site and general construction plans for non-ammunition and explosive facilities located within the IBD ESQD arc to the DoD Explosives Safety Board for review and approval. UFC 3-340-02 contains design procedures to achieve personnel protection, protect facilities and equipment, and prevent propagation of accidental explosions.

The MOTCO Fire Department provides fire protection services for MOTCO from two MOTCO fire stations: one in the Tidal Area and one in the Inland Area. In addition, the Contra Costa County Fire Protection District (CCCFPD) maintains 28 fully staffed stations and two stations staffed with paid on-call Reserve Firefighters with a minimum daily staffing of 95 personnel (CCCFPD 2011a). The CCCFPD provides fire and emergency medical services to nine cities, including Antioch (Stations 81, 82, 83, and 88), Clayton (Station 11), Concord (Stations 6, 8, 10, and 22), Lafayette (Stations 15, 16, and 17), Martinez (Stations 12, 13, 14, and 20), Pittsburg (Stations 84, 85, and 87), Pleasant Hill (Stations 2 and 5), San Pablo (Station 70), and Walnut Creek (Stations 1, 3, 4, and 7). The CCCFPD also serves the unincorporated communities of Bay Point (Station 83), Clyde (Station 18), El Sobrante (Station 69), Pacheco (Station 9), and Port Chicago (CCCFPD 2011b). MOTCO has a federal police department and receives contract support from the Contra Costa County Sherriff's office.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, recognizes a growing body of scientific knowledge that demonstrates children may suffer disproportionately from environmental health risks and safety risks. The EO directs federal agencies to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children.

Under the BAAQMD, Rule 5, Section 213, prescribed burning is the planned, controlled application of fire to vegetation to achieve a specific natural resource management objective on land areas selected in advance of that application. Prescribed burning is regulated as Wildland Vegetation Management fires and subjected to all of the requirements applicable to Subsection 5-401.15. As part of these requirements, MOTCO must prepare a smoke management plan, and submit the plan to the Air Pollution Control Officer of the BAAQMD at least 30 days prior to the burn for approval. At MOTCO, the Fire Chief is responsible for organizing and maintaining the appropriate level of firefighting resources and decides when a controlled burn is needed for approximately 1,300 acres of grassland habitat (MOTCO 2011b).

Mosquito control is accomplished under a cooperative agreement with the Contra Costa Mosquito and Vector Control District. The emphasis of this campaign is to reduce mosquito larvae occurrence, thereby minimizing the need to use adulticides. Reducing the adult mosquito population with pesticides (adulticides) approved by the USEPA would be done if necessary to prevent human illness or to suppress a heavy nuisance infestation of mosquitoes. The decision to spray, either by truck-mounted sprayers or by aircraft, is based on surveillance information or the documentation of West Nile virus activity at a level that indicates a threat to human health. Spraying is concentrated in areas most at risk for disease occurrence and will be conducted by certified and licensed applicators. The risk to the public and to the environment is very low. Mosquito adulticides are applied as ultra-low volume (ULV) sprays. ULV applications involve small quantities of active ingredient in relation to the size of the area treated typically less than 2 ounces per acre which minimizes exposure and risk to people and the environment (Contra Costa Mosquito and Vector Control District 2011).

3.11.2 Environmental Consequences

3.11.2.1 Alternative 1 (Preferred Alternative)

Under the Preferred Alternative, no impacts on public health or safety are anticipated. Construction and operation of the proposed ACP would result in a temporary increase in the amount of vehicular traffic through Bay Point; however, the projected increase would have no adverse impacts on the residents of Bay Point in terms of traffic congestion or air quality. With regard to children, all construction would occur on MOTCO property, where access is restricted, and the MOTCO-related traffic through Bay Point would be limited in the mornings on school days, to the extent possible, when children are expected to be present. As such, no disproportionate safety or health risks to children are expected.

Construction of the proposed ACP may expose workers to construction related risks; however, construction activities would not introduce any unique or unusual risks. Practices and policies would be in place to protect human health and minimize safety risks. These practices and

policies would be coordinated between construction contractors and the Army prior to initiation of construction activities. Furthermore, all activities would follow all applicable OSHA requirements.

The Preferred Alternative site is not located within the IBD ESQD arc. The ACP and associated facilities would be constructed in accordance with all Army UFC, design, safety, security, and anti-terrorism/force protection (AT/FP) requirements, which could indirectly increase the safety of nearby community residents. Moreover, the Preferred Alternative could indirectly benefit the community of Bay Point since the Army would have a 24-hour security presence at the proposed ACP.

3.11.2.2 Alternative 2

Alternative 2 would have the similar impacts on health and safety as Alternative 1 (Preferred Alternative).

3.11.2.3 No Action Alternative

Under the No Action Alternative, the Army would not construct a new ACP. ACP #2 would continue to be used for the entrance of all truck traffic into the Tidal Area during missions, for installation support truck traffic, and for all required truck inspections. Current operational inefficiencies, truck queuing, and traffic congestion would continue on Port Chicago Highway near ACP #1. There would continue to be no adequate facility to inspect trucks before they enter the installation. MOTCO would continue to fail to comply with Army ACP design and safety standards. Furthermore, the potential threat for terrorists and saboteurs to switch or alter cargo and to penetrate the boundary of MOTCO before being thoroughly inspected would continue. The situation could result in destruction of stored munitions, damage to ships docked at the pier for loading and unloading ammunition, loss of lives, and destruction of buildings and facilities in the surrounding areas.

3.12 CULTURAL RESOURCES

3.12.1 Existing Conditions

Cultural resources include historic properties, archaeological resources, and sacred sites. Historic properties are defined by the National Historic Preservation Act (NHPA) as any prehistoric or historic district site, building, structure, or object included on, or eligible for inclusion in the NRHP, including artifacts, records, and material remains relating to the district, site, building, structure, or object (NPS 2006a). To be considered eligible for the NRHP a property would need to possess integrity of location, design, setting, materials, workmanship, feeling, and association and must also meet at least one of four criteria (NPS 2002):

A. Be associated with events that made a significant contribution to the broad pattern of our history
B. Be associated with the lives of significant persons in our past

C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
D. Have yielded, or be likely to yield, information important in history or prehistory

A Traditional Cultural Property (TCP) is a specific type of historic property that is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining and the continuing cultural identity of the community (Parker and King 1998). Given the broad range in types of historic properties, historic properties can often include other types of cultural resources such as cultural items, archaeological resources, sacred sites, and archaeological collections.

Cultural items as defined by the Native American Graves Protection and Repatriation Act (NAGPRA) include human remains, as well as both associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony or objects that have an ongoing historical, traditional, or cultural importance to a Native American group or culture (NPS 2006b). Archaeological resources, as defined by the Archaeological Resources Protection Act (ARPA), consist of any material remains of past human life or activities that are of archaeological interest and are at least 100 years of age. Such items include, but are not limited to, pottery, basketry, bottles, weapons, weapon projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human skeletal remains, or any portion or piece of those items (NPS 2000c). Sacred sites are defined by EO 13007, Indian Sacred Sites, as any specific, discrete, narrowly delineated location on federal land that is identified by an Native American tribe or Native American individual determined to be an appropriately authoritative representative of an Native American religion as sacred by virtue of its established religious significance, or ceremonial use by, an Native American religion, provided that the tribe or appropriately authoritative representative of a Native American religion has informed the federal land-owning agency of the existence of such a site (NPS 1996).

Archaeological resources, as governed by the Archaeological Resources Protection Act (ARPA, Section 3(I) 16 U.S.C. 470aa et seq.), include any material remains of past human life or activities that are capable of providing scientific or humanistic understandings of past human behavior and cultural adaptation through the application of scientific or scholarly techniques (ARPA, Section 3(I) 16 U.S.C. 470bb).

The Port Chicago Explosion of 1944 occurred at Pier 1, sinking two ships, the S.S. Quinalt Victory and S.S. E.A. Bryant, and destroying the pier. Based on historic aerial photography, standing pilings that are visible in the area of the current Pier 1 located near the Port Chicago Naval Magazine National Memorial in the Tidal Area are likely associated with the former Pier 1. The Port Chicago Naval Magazine National Memorial is an NRHP-listed property; however, it is not located in the vicinity of either action alternative site.

As of 2016, a total of 25 cultural resources investigations have been conducted at MOTCO (JRP Historical Consulting Services 2009 and Cardno 2016). Of the 25 investigations that have occurred within the MOTCO boundary, one resource near to action alternative sites, the Contra

Costa Canal, has been determined eligible for listing in the NRHP. The Contra Costa Canal runs along the northern edge of MOTCO's Inland Area and traverses the Tidal Area just south of Port Chicago Highway. This NRHP-eligible resource is owned and managed by the Bureau of Reclamation (MOTCO 2011c). Previous cultural resources investigations at MOTCO show that nearly all of the resources built in 1998 or earlier have been previously evaluated, and that none were determined eligible for listing in the NRHP except the canal (MOTCO 2011c).

A records search revealed that two sites with archaeological components have been discovered and recorded within MOTCO. Both sites are historical archaeological sites located within the Tidal Area and both have been determined not eligible for listing in the NRHP. The sites are the Nichols School Site (CA-CCO-638H) and the Getty Oil Site (CA-CCO-639H). The Nichols School Site is located immediately east of the Alternative 1 (Preferred Alternative) site (see Figure 2-2) and is within the project footprint at the Alternative 2 site (see Figure 2-4).

On April 23, 2015, a pedestrian survey, which consisted of inspecting the ground surface in 10- to 15-meter transects within the APE, was performed at the location of proposed ACP. The APE included both action alternative sites, but was limited to the construction project footprints.

The Nichols School Site (CA-CCO-638H) consists of a concrete walkway and a light scatter of wood, metal, and plastic and was first documented in August 1992. During the April 2015 pedestrian survey of the APE, the area was found to be highly disturbed, and there was evidence of burning in several portions of the survey area. Overall visibility in the area was between 0 to 75 percent, with an average visibility of approximately 25 percent. Due to the limited visibility within portions of the survey area, shovel scrapes were performed at every 100 meters along two of the transects to check for cultural resources. All shovel scrapes resulted in non-cultural soil with no artifacts present.

The pedestrian survey resulted in the discovery of some recent historic trash debris of indeterminate age with miscellaneous pieces of non-diagnostic metal and rubber, as well as a cement-filled pipe (MOTCO-ISO-1) and a cement-like wall base approximately 1 foot wide, 4 inches tall, and 120 feet long with rebar protruding from it every 2 feet (MOTCO-ISO-2). Additionally, several pieces of dark-brown colored glass were found in the area where the old schoolhouse (CA-CCO-638H) was located. No evidence of archaeological sites or materials was encountered in the APE. The Army found that there were no historic properties present in the APE and the project qualified for a finding of *no historic properties affected*. In a May 28, 2015 letter to the SHPO (Appendix A), the Army sought concurrence with its determination and documentation of the APE and finding of *no historic properties affected*. Consultation with the SHPO is still ongoing; however, the Army anticipates concurrence with its determination. Before construction would begin on the new ACP, Section 106 SHPO concurrence must be received.

The Native American Heritage Commission has identified four federally recognized Native American Tribes with potential interest in MOTCO. These Tribes include the Bay Miwok, Ohlone/Constanoan, Plains Miwok, and Patwin/Winton. No items subject to the NAGPRA have been recovered from or identified at MOTCO through cultural resources studies conducted to

date (MOTCO 2011c; Army 2015). As part of this EA, interested federally recognized Native American Tribes were contacted and their input was solicited (Appendix A).

Cultural Overview

The prehistory of the San Francisco Bay Region and Central California includes three major chronological sequences: Windmiller Pattern, Berkeley Pattern and Augustine Pattern. Although Paleo-Indians may have been present as early as 10,000 years before present (B.P.), as has been evidenced elsewhere in North America, sites from that period are not well documented for this part of California.

The Windmiller Pattern is the earliest cultural period associated with the region dating from 4,500 to 2,500 B.P. Archaeological sites associated with this period have been found in riverine, marshland and valley bottom areas. Projectile points, fishing paraphernalia, as well as seed grinding implements found at these sites suggest people were exploiting a variety of animal and plant resources that would have been abundant in this area. Burials rich in grave goods such as charmstones, quartz crystals, and shell beads indicate that ceremonialism and trade were also associated with the Windmiller Pattern.

The Berkeley Pattern, 2,500 to 1,500 B.P., appears to have considerable overlap with the Windmiller Pattern. Berkeley Pattern sites are found in more diverse locations including riverine, marshland, and valley bottoms, as well as upland locations. Berkeley Pattern sites tend to be more deeply stratified indicating longer occupation periods for site locations. An increase in grinding and milling implements over Windmiller Pattern sites suggests an increased reliance on plant resources during this time period. Smaller projectile points and the eventual introduction of bow and arrow occurred during this period.

During the Augustine Pattern covering the period from 1,500 to 150 B.P., the influx of Wintuan populations from the north are believed to have stimulated a period of intensified hunting and fishing, as well as a gathering strategy focused on acorns. Expanding population, evidence for increased trade and exchange networks, and greater ceremonial and social complexity typify this pattern.

At the time of initial European contact by the Spanish in 1772, the Bay Miwok were the cultural inhabitants of the region. The Miwok were a collection of independent triblets of people speaking a common language described as a subdivision of the Utian language family. Each triblet lived in permanent villages with multiple smaller seasonal campsites distributed throughout their territory. With the arrival of the Spanish, the population of Miwok people in the region was rapidly decimated by epidemic diseases introduced by the foreigners.

Early colonial interests of the Spanish, and later Mexicans and Americans, in the area were in cattle and sheep ranching. The discovery of coal around nearby Mt. Diablo in the mid-1800s brought a short-term mining boom to the area until about the 1880s. During this period, railroads from the mines and wharves for trans-shipment to various ports of call in the Bay area and beyond brought increasing development to the shorelines of the area. After the closure of the mines, some increase in agriculture in the area kept the coastal economy of Contra Costa

County active. The community on Suisun Bay that would later become the site of Naval Magazine Port Chicago was called Bay Point. Throughout the first part of the twentieth century Bay Point underwent a series of boom and busts with various local industrial endeavors including, a smelting company, lumber mill, cement company, and rail service. During World War I, the Pacific Shipbuilding Company and Electro Metals Company came to Bay Point to fulfill a contract with the U.S. War Department to construct ten 10,000-ton freighters to support the war effort. Upon completion of the contract the companies abandoned Bay Point. Various continued efforts to stimulate the failing local economy, including changing the name of the town to Port Chicago in 1931, had little effect.

In 1941, facing possible entry into World War II, the U.S. Navy, assessing its facilities, determined the need for a larger munitions preparation and shipping depot. The nearest facility on Mare Island in San Francisco Bay was already at capacity without adequate space on the island for expansion. The need was further emphasized by the Japanese attack on Pearl Harbor on December 7, 1941. The site of Port Chicago was selected for the new munitions depot for its access to dredgable deep channels, rail connections, and isolation from habitation and industrial activity. Construction of the facility began in January 1942, and the first munitions ship was loaded in December 1942. The Navy continued to expand the facility throughout the war with an initial goal of being able to berth six Liberty ships.

On July 17, 1944, two ships, the *S.S. A.E. Bryan* and the *S.S. Quinalt Victory* were berthed at Pier #1, with one ship nearly loaded with munitions while the other was being prepared. At 10:17 p.m. two explosions tore through the depot, destroying both ships, a Coast Guard fire barge, the Pier and loading facilities, and numerous buildings and equipment along the waterfront, killing 320 people and injuring 390. In addition to the tragic loss of life, the disaster brought to light the discriminatory segregation policy of the Navy at that time by using primarily African-American enlisted personnel for the hazardous duty of ammunition loading. Three weeks after the disaster, 328 surviving munitions loaders mutinied against loading a waiting vessel for safety concerns. Of these men, 50 were court-martialed for mutiny and served federal prison sentences. After the disaster and subsequent mutiny, the Navy abandoned its policy of segregating enlisted personnel by race.

After the disaster, the facility was repaired and expanded. By June 1945, the facility could berth and load six ships simultaneously as planned. Since World War II, MOTCO has expanded its grounds to include the Tidal Area surrounding the facility, as well as the towns of Port Chicago and Nichols, which were demolished to create a larger safety buffer.

The Memorial was designated in 1992 by Congress under PL 102-562 in remembrance of the 1944 Port Chicago disaster and for the critical role the installation served during World War II.

3.12.2 Environmental Consequences

3.12.2.1 Alternative 1 (Preferred Alternative)

Implementation of the Preferred Alternative would not impact the Contra Costa Canal or the NPS-managed Port Chicago Naval Magazine National Memorial. The Nichols School Site (CA-CCO-638H), located immediately east of the Preferred Alternative site (see Figure 2-2), would

be avoided during construction of the proposed ACP. Moreover, based on the April 23, 2015, pedestrian survey, the Army found that there were no historic properties present in the APE and determined that the project qualified for a finding of *no historic properties affected*. In a May 28, 2015, letter to the SHPO (Appendix A), the Army sought concurrence with its determination and documentation of the APE and finding of *no historic properties affected*. Consultation with the SHPO is still ongoing; however, the Army anticipates concurrence with its determination. Before construction would begin on the new ACP, Section 106 SHPO concurrence must be received.

No items subject to NAGPRA have been recovered from or identified at MOTCO through previous cultural resources studies, so no impacts on these resources would be anticipated.

However, if during construction of the proposed ACP a potential cultural resource is inadvertently discovered, all activities would cease and the discovery would immediately be reported to the MOTCO Environmental Coordinator, in accordance with ICRMP guidance and procedures. Therefore, there would be negligible impacts on cultural resources under the Preferred Alternative.

3.12.2.2 Alternative 2

Alternative 2 would require disturbance to the Nichols School Site (CA-CCO-638H) (see Figure 2-4). However, based on the pedestrian survey of the Alternative 2 site, the Army determined a finding of *no historic properties affected*. The Army sought concurrence with its determination. Consultation with the SHPO is still ongoing; however, the Army anticipates concurrence with its determination. Before construction would begin on the new ACP, Section 106 SHPO concurrence must be received. In is anticipated that there would be negligible impacts on cultural resources under the Preferred Alternative.

As with Alternative 1 (Preferred Alternative), if during construction of the proposed ACP a potential cultural resource is inadvertently discovered, all activities would cease and the discovery would immediately be reported to the MOTCO Environmental Coordinator, in accordance with ICRMP guidance and procedures.

3.12.2.3 No Action Alternative

Under the No Action Alternative, historical or archaeological resources would not be directly impacted. Under the No Action Alternative, there would be no adverse effects on a property that is significant to a community or ethnic social group. The management of cultural resources at MOTCO would continue under the installation's ICRMP.

3.13 SUMMARY OF IMPACTS

Table 3-19 provides a summary of the impacts of the action alternatives and No Action Alternative on each of the resources discussed in this chapter (Affected Environment).

Table 3-19. Summary Matrix of Potential Impacts

Affected Environment	Alternative 1 (Preferred Alternative)	Alternative 2	No Action Alterative
Earth Resources	Construction of the proposed ACP would result in minor, short-term soil impacts, as increased localized potential for soil erosion would occur at the project site. A total of approximately 12.5 acres of Antioch loam soils, 2 to 9 percent slopes, with a moderate erosion potential (K = 0.43), would be disturbed. During project construction, erosion potential would be minimized through adherence to construction NPDES permit requirements. Since the construction disturbances would be in excess of 1 acre, the Army would obtain the required NPDES permit, including development of a site-specific SWPPP and use of BMPs. The SWPPP includes erosion and sediment control BMPs aimed at confining sedimentation to the construction site through the use of silt fencing, swales, rock dams, etc., and monitoring. Surface drainage bio-swales and underground pipes would be utilized to route stormwater runoff from the roof of buildings and pavement to several detention areas that would then drain into existing nearby swales/Nichols Creek. Within the project footprint, a pond bio-swale area would be sized to handle standard anticipated rainfall and infiltrate rainwater into the ground within a 48-hour period after a storm event. Native plantings would be included in the bio-swale design to increase sediment and pollutant removal from runoff. In addition to the bio-swale, a dry creek bed acting as a drainage conduit for the site would be created and graded to drain into a detention basin where energy disbursement of suspended solids would occur prior to the discharge of any water from the site.	Alternative 2 would have similar impacts on earth resources as Alternative 1 (Preferred Alternative); however, construction of the non-sally port design ACP would only disturb a total of approximately 4.8 acres of Antioch loam soils.	No direct or indirect impacts would occur.
Water Resources	Overall, there would be negligible impacts on water resources at MOTCO as a result of implementation of the Preferred Alternative. Since the construction disturbances would be in excess of 1 acre, the Army would obtain the required NPDES permit, including development of a site-specific SWPPP and use of BMPs. BMPs would include measures to reduce stormwater runoff and the transport of soils from the construction site to adjacent waterbodies and management measures that reduce the potential for contaminants to enter surface or groundwater supplies. In addition to BMPs, a pond bio-swale area would be constructed at the site and sized to handle standard anticipated rainfall and infiltrate rainwater into the ground within a 48-hour period after a storm event. Native plantings would be included in the bio-swale design to increase sediment and pollutant removal from runoff. A dry creek bed acting as a drainage conduit for the site would be graded to drain into a detention basin where energy disbursement of suspended solids would occur prior to the discharge of any water from the site. Surface drainage bio-swale and underground pipes would be utilized to route stormwater runoff from the roof of buildings and pavement at the ACP to several detention areas that would then drain into existing nearby swales/Nichols Creek. No impacts on Nichols Creeks would be anticipated, and the cattle exclusion fence along portions of the creek would remain in place for the protection of water quality. As such, potential impacts on surface water would be minimized. The Preferred Alternative is not located within a wetland area or the 100-year floodplain; therefore, no impacts on wetlands or floodplains are anticipated.	Alternative 2 would have similar impacts on water resources as Alternative 1 (Preferred Alternative).	No direct or indirect impacts would occur.
Air Quality	Temporary and minor impacts on air pollution would occur from the use of construction equipment (combustion emissions) and the disturbance of soils (fugitive dust) during construction of the proposed ACP. However, these emissions would be temporary and return to pre-project levels upon the completion of construction. Emissions as a result of the Preferred Alternative are expected to be below the *de minimus* threshold and therefore would not be considered significant. Best Management Practice (BMPs), such as dust suppression and maintaining equipment in proper working condition, would reduce the temporary construction impacts. Once construction is completed, air emissions would be expected to be reduced below current levels due to the new ACP and dedicated truck inspection area, which would result in the more efficient movement of truck traffic and cargo and the reduction of traffic congestion and idling time.	Alternative 2 would have similar impacts on air quality as Alternative 1 (Preferred Alternative); however, with a smaller project footprint and likely shorter construction duration, as well as the anticipated decrease in the time required to access the installation as compared to Alternative 1, air quality impacts could be slightly less than those under Alternative 1. The same air quality BMPs associated with Alternative 1 (Preferred Alternative) would also be implemented as part of Alternative 2.	No direct or indirect impacts would occur; however, no reductions over current levels would be expected.

Table 3-19, continued

Affected Environment	Alternative 1 (Preferred Alternative)	Alternative 2	No Action Alterative
Biological Resources	The Preferred Alternative is located in an upland area that supports non-native annual grasslands. MOTCO contains over 1,700 acres of this non-native habitat, and the loss of 12.5 acres would result in negligible impacts on vegetative habitat and wildlife. The USFWS requires the Army to complete protocol-level surveys for the California red-legged frog and California tiger salamander because the range for the California red-legged frog extends into Contra Costa County and MOTCO is within the range of the Central Valley population of California tiger salamanders. Protocol-level surveys were completed most recently during the 2014-2015 and 2015-2016 seasons. Three sample locations included in the recent surveys were located in the vicinity of the Preferred Alternative site. The 2014-2015 and 2015-2016 protocol surveys, in conjunction with past surveys, indicate a negative finding for both the California red-legged frog and California tiger salamander. In consultation with the USFWS, the Army determined that the Preferred Alternative may affect, but is not likely to adversely affect the California red-legged frog and California tiger salamander, due to the very low potential for occurrence, coupled with the implementation of avoidance and minimization measures that would be incorporated in the project. There is no Critical Habitat designated at MOTCO for any protected terrestrial species. Therefore, the Preferred Alternative would not result in major impacts on protected species or designated Critical Habitats.	Alternative 2 would have similar impacts on biological resources as Alternative 1 (Preferred Alternative); however, only approximately 4.8 acres of non-native annual grasslands would be lost due to construction of the non-sally port design ACP. The same USFWS-recommended precautionary avoidance, minimization, and compensation measures for the California red-legged frog and California tiger salamander associated with Alternative 1 (Preferred Alternative) would also be implemented as part of Alternative 2.	No direct or indirect impacts would occur.
Land Use	Implementation of the Preferred Alternative would convert 12.5 acres of previously disturbed, but undeveloped, non-native grasslands to 12.5 acres of developed land. The site is located within in the eastern portion of the Tidal Area in an area of identified in the MOTCO's RPMP as having high development potential and outside the IBD ESQD arc. Reinstitution of ACP #5 as a major point of entry to the installation is consistent with the land use outlined in MOTCO's RPMP. Moreover, there are approximately 1,300 acres of grasslands at MOTCO, and the loss of 12.5 acres of non-native grasslands would be negligible. Therefore, negligible impacts on land use would be expected from the conversion of 12.5 acres of undeveloped grasslands to a developed land use.	Alternative 2 would have similar impacts on land use as Alternative 1 (Preferred Alternative); however, only approximately 4.8 acres of acres of previously disturbed, but undeveloped, non-native grasslands would be converted to developed land with the construction of the non-sally port design ACP.	No direct or indirect impacts would occur.

Table 3-19, continued

Affected Environment	Alternative 1 (Preferred Alternative)	Alternative 2	No Action Alterative
Transportation and Utilities Infrastructure	Temporary increases in traffic would occur during construction of the proposed ACP. Once the ACP is constructed, all mission-related traffic would be shifted from ACP #2 to the new ACP. General installation support traffic, which is estimated to be up to 4 trucks per year would use the new ACP and would have a negligible impact on the LOS along Port Chicago Highway through the community of Bay Point. During annual missions, MOTCO's total truck volume using the new ACP would be approximately 258 trucks. Missions would typically take place for up to 36 days each year. Increases in truck traffic would be intermittent and would equate to an additional 7 trucks per day for each of the 36 days associated with the mission. Once the mission is completed, it is estimated that non-mission truck traffic would be no greater than 4 trucks per year for general installation support. Approximately 80 personnel would be present each day for contracted terminal operations and as stevedore personnel during a mission. On a daily basis for up to 36 days each year, personnel would drive privately owned vehicles (POVs) through Bay Point on Port Chicago Highway. The POV traffic would be intermittent and would only occur during missions. Once a mission is completed, no more than 5 POVs would be expected to use the proposed ACP on a daily basis to access the Tidal Area. In addition to POVs, up to 4 GOVs could use the new ACP on a daily basis. Overall, mission-related short-term, minor increases in traffic through the community of Bay Point would be expected under the Preferred Alternative. The minor traffic increase could cause further congestion at the traffic signal at the intersection of Port Chicago Highway and Pacifica Avenue, which already has an unacceptable LOS during morning hours. As part of the Preferred Alternative, MOTCO will work with its trucking contractors to implement restrictions on delivery times during morning hours on school days, where practicable. No changes to the area mass transit, rail transport, or water transport would occur with implementation of the Preferred Alternative. The Preferred Alternative would require would require relocation/modification of aerial communication lines (PG&E and AT&T) that run along the highway. The new ACP corridor would cross over an existing Shell high-pressure nitrogen gas line that runs along the edge of Port Chicago Highway pavement. This pipeline would remain and would be protected in place. Existing water, sewer, and underground telecommunications lines would be extended from the existing infrastructure to the proposed ACP. Electrical power is already present at the proposed site; however, a new transformer would be installed to meet the increased demand for electricity. To the maximum extent possible, at least 50 percent of non-hazardous solid waste generated through construction of the ACP would be diverted in accordance with EO 13423, EO13514, CAL Green requirements, and the City of Concord's construction and demolition materials ordinance. Overall, the proposed ACP would result in negligible impacts on utilities at MOTCO and in the area.	Alternative 2 would have similar impacts on transportation and utilities infrastructure as Alternative 1 (Preferred Alternative). As with Alternative 1 (Preferred Alternative), MOTCO would work with its mission trucking companies to place restrictions on delivery times during morning hours on school days, where practicable.	Under the No Action Alternative, the Army would not construct a new ACP. ACP #2 would continue to be used for the entrance of all truck traffic into the Tidal Area during missions, for installation support truck traffic, and for all required truck inspections. Current operational inefficiencies, truck queuing, and traffic congestion would continue on Port Chicago Highway near ACP #1.
Visual Resources	No major impacts on visual resources would occur from construction and operation of the proposed ACP.	Alternative 2 would have similar impacts on visual resources as Alternative 1 (Preferred Alternative).	No direct or indirect impacts would occur.
Noise	Under the Preferred Alternative, noise associated with the construction of the proposed ACP would not adversely affect sensitive receptors since the noise would attenuate to ambient background noise levels, and noise impacts from construction activities would also be considered negligible. With implementation of the Preferred Alternative, the change in noise due to the mission-related truck traffic would be less than 3 dBA, the threshold in which noise is perceptible to the human ear and impacts are considered significant. Thus, noise impacts on the community would be negligible.	Alternative 2 would have similar impacts on noise as Alternative 1 (Preferred Alternative).	No direct or indirect impacts would occur.

Table 3-19, continued

Affected Environment	Alternative 1 (Preferred Alternative)	Alternative 2	No Action Alterative
Socioeconomics and Environmental Justice	No adverse direct impacts would occur on socioeconomics or environmental justice issues as a result of the Preferred Alternative. However, construction of the proposed ACP could have temporary beneficial impacts on the region's economy due to temporary employment and sales taxes generated through the purchase of construction-related items such as fuel and food. Under the Preferred Alternative, vehicular traffic through Bay Point would temporarily increase; however, the projected increase would have no major adverse impacts on the residents of Bay Point in terms of traffic congestion or air quality. With regard to children, all construction would occur on MOTCO property, where access is restricted, and the MOTCO-related traffic through Bay Point would be limited in the mornings on school days, to the extent possible, when children are expected to be present. With these restrictions in place, no disproportionate safety or health risks to children are expected.	Alternative 2 would have similar impacts on socioeconomics and environmental impacts as Alternative 1 (Preferred Alternative).	No direct or indirect impacts would occur.
Hazardous Materials and Waste	Under the Preferred Alternative, negligible impacts from hazardous materials or waste would occur. To comply with UXO requirements, a meeting will be held with the contractors and representatives from the USACE and MOTCO DPW to discuss general conditions, work schedule, phasing, and coordination, security, safety, permits, and other matters pertinent to work accomplishments prior to the initiation of work. In addition , the contractor would be required to submit various plans including an UXO Anomaly Avoidance Plan I UXO Support During Construction Activities; Environmental Protection Plan; Quality Control Plan , Hazard Analysis, and Safety/Health Plan. These plans will discuss safety protocols and notification requirements that will minimize any potential for adverse impacts. IRP sites 25, 26, 28, and 34 are located in the vicinity of the Preferred Alternative, as are two monitoring and IR wells, but would not be disturbed by construction or operation of the proposed ACP.	Alternative 2 would have similar impacts on hazardous materials and waste as Alternative 1 (Preferred Alternative).	No direct or indirect impacts would occur.
Health and Safety	As part of the Preferred Alternative, practices and policies would be in place to protect human health and minimize safety risks. These practices and policies would be coordinated between construction contractors and the Army prior to initiation of construction activities. Furthermore, all activities would follow all applicable Occupational Safety and Health Administration (OSHA) requirements. Therefore, the Preferred Alternative would not result in any major adverse health or safety effects. The Preferred Alternative could, however, indirectly benefit the safety of community of Bay Point residents since the Army would have a 24-hour security presence at the ACP.	Alternative 2 would have similar impacts on health and safety as Alternative 1 (Preferred Alternative).	Under the No Action Alternative, the Army would not construct a new ACP. ACP #2 would continue to be used for the entrance of all truck traffic into the Tidal Area during missions, for installation support truck traffic, and for all required truck inspections. Current operational inefficiencies, truck queuing, and traffic congestion would continue on Port Chicago Highway near ACP #1. There would continue to be no adequate facility to inspect trucks before they enter the installation. MOTCO would continue to fail to comply with Army ACP design and safety standards. Furthermore, the potential threat for terrorists and saboteurs to switch or alter cargo and to penetrate the boundary of MOTCO before being thoroughly inspected would continue. The situation could result in destruction of stored munitions, damage to ships docked at the pier for loading and unloading ammunition, loss of lives, and destruction of buildings and facilities in the surrounding areas.

Table 3-19, continued

Affected Environment	Alternative 1 (Preferred Alternative)	Alternative 2	No Action Alterative
Cultural Resources	Implementation of the Preferred Alternative would not affect cultural resources or historic properties. The Nichols School Site (CA-CCO-638H), located immediately east of the Preferred Alternative site (see Figure 2-2), would be avoided during construction of the proposed ACP. Moreover, based on the April 23, 2015, pedestrian survey, the Army found that there was no historic properties present in the APE and determined that the project qualified for a finding of *no historic properties affected*. In a May 28, 2015, letter to the SHPO (Appendix A), the Army sought concurrence with their determination and documentation of the APE and finding of *no historic properties affected*. Consultation with the SHPO is still ongoing; however, the Army anticipates concurrence with their determination. Before construction would begin on the new ACP, Section 106 SHPO concurrence must be received. If during construction of the proposed ACP, a potential cultural resource is inadvertently discovered, all activities would cease and the discovery would immediately be reported to the MOTCO Environmental Coordinator, in accordance with ICRMP guidance and procedures. Therefore, there would be negligible impacts on cultural resources under the Preferred Alternative.	Alternative 2 would construct over the Nichols School Site (CA-CCO-638H) (see Figure 2-4). However, based on the April 23, 2015 pedestrian survey, the Army found that there was no historic properties present in the APE and determined that the project qualified for a finding of *no historic properties affected*. In a May 28, 2015 letter to the SHPO, the Army sought concurrence with their determination and documentation of the APE and finding of *no historic properties affected*. Consultation with the SHPO is still ongoing; however, the Army anticipates concurrence with their determination. Before construction would begin on the new ACP, Section 106 SHPO concurrence must be received. As with Alternative 1 (Preferred Alternative), If during construction of the proposed ACP, a potential cultural resource is inadvertently discovered, all activities would cease and the discovery would immediately be reported to the MOTCO Environmental Coordinator, in accordance with ICRMP guidance and procedures. Therefore, there would be negligible impacts on cultural resources under Alternative 2.	No direct or indirect impacts would occur.

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4.0 CUMULATIVE IMPACTS

4.1 DEFINITION OF CUMULATIVE IMPACTS

The approach taken in the analysis of cumulative impacts in this EA follows the objectives of NEPA, CEQ regulations, and CEQ guidance. Cumulative impacts are defined in 40 CFR Section 1508.7 as follows:

> The impact on the environment that results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.
>
> To determine the scope of environmental impact statements, agencies shall consider ….[c]umulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement (40 CFR Section 1508.25).

In addition, CEQ and the USEPA have published guidance addressing implementation of cumulative impact analyses—*Guidance on the Consideration of Past Actions in Cumulative Effects Analysis* (CEQ 2005) and *Consideration of Cumulative Impacts in EPA Review of NEPA Documents* (USEPA 1999). CEQ guidance entitled *Considering Cumulative Impacts Under NEPA* (1997) states that cumulative impact analyses should "...determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative impacts of other past, present, and future actions...identify significant cumulative impacts…[and]...focus on truly meaningful impacts."

Cumulative impacts are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the proposed action would be expected to have more potential for a relationship than those more geographically separated. Similarly, relatively concurrent actions would tend to offer a higher potential for cumulative impacts. To identify cumulative impacts, the analysis needs to address the following three fundamental questions:

1. Does a relationship exist such that impacts on affected resource areas by the proposed action might interact with the impacts on resources of past, present, or reasonably foreseeable actions?
2. If so, what would the combined impact be?
3. Are there any potentially significant impacts not identified when the proposed action is considered alone?

4.2 POTENTIAL CUMULATIVE EFFECTS BY RESOURCE

This cumulative impacts analysis focuses on those resource areas where the incremental impact of the proposed action could have the potential for significant direct or indirect

cumulative effects, as well as those resources that are of concern in the MOTCO region. Based on the analysis presented in Chapter 3.0 of this EA, the following resource areas were carried forward for further analysis of potential cumulative effects: water resources, air quality, GHG emissions and climate change, biological resources, transportation and traffic, environmental justice, and cultural resources.

For the purposes of this EA, the following resource areas were not carried forward for cumulative effects analysis: earth resources; land use; utilities; visual resources; noise; socioeconomics; health and safety; and hazardous materials and waste. Since the direct and/or indirect impacts on these resource areas are localized and temporary, and the respective resources are anticipated to recover within a short period of time, another action would need to occur in the same localized area at the same time for cumulative impacts to be possible. While a few of the other actions potentially affecting these resource areas may occur in the same localized area, the potential for cumulative significant impacts due to the incremental impact of the proposed action would not exist, as the proposed action was found to result in no, negligible, or minor direct/indirect adverse impacts on these resource areas.

4.2.1 Other Actions Affecting the Resources of Concern

Other past, present, and reasonably foreseeable actions that could influence the resource areas carried forward for further analysis (water resources, air quality, GHG emissions and climate change, biological resources, transportation and traffic, environmental justice, and cultural resources) are addressed here. This includes consideration of the other past and present actions and their locations, the extent of their direct and indirect effects, any likely future actions, and their relative contribution to cumulative impacts on the specific resource.

4.2.1.1 Past, Present, and Reasonably Foreseeable Actions

In accordance with CEQ's guidance, past actions are relevant and useful in analyzing whether or not the reasonably foreseeable effects of the proposed action may have a continuing, additive, and significant relationship to those effects. CEQ guidance emphasizes a focus on the current aggregate effects of past actions without delving into the historical details of individual past actions unless such information is necessary to describe the cumulative impact of all past actions combined.

Present and reasonably foreseeable actions include actions that are in detailed planning phases, under construction, or which have been recently initiated. A comprehensive list of relevant recent past, ongoing, and reasonably foreseeable future actions, along with the status of the NEPA analysis (if applicable) is provided in Table 4-1. These actions focus on those that were found to have potential for cumulative effects with the proposed action on water resources, air quality, GHG emissions and climate change, biological resources, visual resources, transportation/traffic, cultural resources, toxic substances, and/or environmental justice.

Table 4-1. Cumulative Action Evaluation

Action	Level of Analysis Completed or Planned	Decision Document	Lead Agency
Past Projects			
Pier 3 Pile Wrapping	EIS	ROD (April 2015)	Army
Barge Pier Repair	CX	REC (Summer 2015)	Army
RPMP Projects	EA	FNSI (June 2013)	Army
Facility Reduction Program Demolition	Programmatic EA RECs and CXs	February 2014 August 2014	Army
Repair and Modernization of Piers 2 and 3	EIS	ROD (March 2015)	Army
Present and Reasonably Foreseeable Projects			
IRP Remedial Actions	Regulatory Consultation	NA	Army
Military Munitions Response Program	Regulatory Consultation	NA	Army
Pier 2 Modernization and Repair Design Changes	Supplement EA in preparation	TBD	Army
Repair of Bridges, Roads, and Utilities at MOTCO	EA in prep	TBD	Army
Lot 2 Lightning Protection System Modification	CX	TBD	Army
Gate 1 (ACP #1) Upgrades	CX	TBD	Army
Building 245 Renovations	CX	TBD	Army
Periodic Dredging of Piers	TBD	TBD	Army
Installation Maintenance and Master Plan	EIS	TBD	Army
Community Transportation Projects	NA	NA	Various
Regional Shoreline Restoration Project	NA	NA	East Bay Regional Park District

Notes: EA = Environmental Assessment; EIS = Environmental Impact Statement; CX = Categorical Exclusion; FNSI = Finding of No Significant Impact; NA = not available; REC = Record of Environmental Consideration; ROD = Record of Decision; TBD = to be determined

The paragraphs below describe details of the actions listed in Table 4-1.

Pier 3 Pile Wrapping

Beginning in October 2015, the Army implemented the Pier 3 repairs analyzed in the EIS for Modernization and Repair of Piers 2 and 3 at MOTCO (Army 2015). Pier 3 was constructed in 1944 as an all-timber structure. These timber structures had been subject to the effects of a marine borer infestation that has been increasing in association with the increasing salinity level in Suisun Bay, creating a more favorable habitat for the marine borer. In order to maintain its limited operational capability through 2019, the Army protected structurally significant timber piles located under the Main Platform and walkway by installing non-reactive high-density

polyethylene jackets around the timber piles. The jackets or wraps, consisting of an inner adhesive layer protected by an outer jacket, are intended to protect the piles from further marine borer infestation.

All work was conducted in accordance with precautions for MEC and the ESS. Debris booms were placed around the Pier 3 work area in accordance with BMPs. The Army monitored turbidity during construction and required the contractor to limit the spread of turbidity (and any associated contaminants) in accordance with the project's CWA Section 401/404 requirements. In addition, the Army met the terms and conditions of the Biological Opinions issued by NMFS and USFWS, including communication with NMFS and USFWS regarding aspects of the project as it was being implemented.

Barge Pier Repair

The 2015 EIS included a description of a structural project involving removal and replacement of 22 timber piles and wrapping for 46 timber piles. However, the project was subsequently downscaled to the installation of 8 fender piles and was completed by October 2015 (Personal communication, G. Romine 2016).

RPMP Projects

In June 2013, the Army signed a FNSI for the implementation of several MOTCO RPMP projects. The action included the analysis of six construction projects, demolition of up to 50 structures, proposed livestock grazing/fire management/upland invasive species control and management, cantonment area wildlife control, perennial pepperweed control and management, and inventory and evaluation of cultural resources at MOTCO. Some elements of the construction projects have changed from those evaluated in the EA and addressed in this FNSI. The status of the six construction projects and notes regarding additional NEPA to address changes in project elements are as follows:

- P76086, Lightning Protection: included the installation of a Lightning Protection System at sites with high levels of previous disturbance in the Tidal Area. The EA evaluated installation of approximately 280 steel poles ranging in heights of 60 to 80 feet set in concrete foundations, overhead wiring that serves the functions of both a strike termination device and a main conductor, and buried ground loop wires and rods.

- P74877, VCC and Security Fencing: the security fencing was implemented, but the VCC is now part of the ACP #1 improvement project further described below. The fenceline project installed 6 miles of existing chain-link fenceline topped with barbed wire and approximately four swing gates to connect with existing fencelines adjacent to existing roadways in the Tidal Area where there has been varying levels of previous disturbance. The trimming of tall or bushy vegetation that would impede visibility along the fenceline (in non-wetland areas) was also included. The ACP #1 project is further discussed below.
- P76091, Facilities Maintenance Building: this project was recently completed in spring 2016. This project is also commonly referred to as the Engineering Maintenance and Housing Shop.

- P76087, Equipment Maintenance Building: this $5.3 million project is currently under final design. The planned construction footprint in the Inland Area is consistent with that evaluated in the EA and included an 8,848-square-foot (SF) maintenance building; 3,000-SF storage building; and site pavements and improvement for access, parking, sidewalks, and curbing. This project is also commonly referred to as the General Purpose/Equipment Maintenance Shop.

- P76092, Security Headquarters Building: this project has been reevaluated and repackaged as part of the ACP #1 project and the project for renovation of Building 245, which are further described below (MOTCO 2013, Garber 2016).

Additionally, as some of the building demolition projects were evaluated under this EA and others under the facility reduction program, they are discussed together below.

Facility Reduction Program Demolition

The building demolition program at MOTCO was analyzed in the RPMP EA and in the Army's February 2014 Final Programmatic EA for the U.S. Army Materiel Command Building Demolition Program (Army Materiel Command 2014), as well as tiered RECs or CXs covering the site-specific conditions at MOTCO. The approximate summary of demolished facilities by demolition year is as follows:

- 2014: 1,800 SF
- 2015: 113,000 SF, four picnic shelters, two 25,000-gallon above ground storage tanks, three tennis courts, and a winch trainer facility
- 2016: 43,000 SF
- 2017 and/or 2018: 73,500 SF and a tower/wind direction indicator
- 2019: five lighter berth systems in the Suisun Bay (Personal communication, K. Garber, 2016).

A reduced building footprint provides long-term beneficial impacts on the environment due to the reduced energy and water use and facilities maintenance requirements. Many of these buildings were built in the 1940s to 1960s and lack the efficiencies of modern construction, systems, and fixtures.

All demolition activities are conducted in accordance with BMPs and SOPs for construction waste materials including the following:

- Waste diversion: the prevention and reduction of generated waste through source reduction, recycling, reuse, or composting. EO 13693, *Planning for Federal Sustainability in the Next Decade*, requires diverting at least 50 percent of non-hazardous construction and demolition materials and debris annually beginning in fiscal year (FY) 2016, where life-cycle is cost-effective.

- Toxic materials: buildings and suspect materials are screened for fixtures that may contain toxic materials prior to demolition and disposal. Buildings are tested for asbestos, LBP, PCBs, and mercury prior to demolition and all applicable federal, state,

and local requirements are adhered to in the demolition, and disposal process. As described in Section 3.12.3, creosote-treated wood waste is evaluated for classification as hazardous waste or treated wood waste (TWW) (creosote-treated lumber is not generally subject to regulation as a hazardous waste unless testing reveals that it leaches arsenic above a certain threshold) and is disposed of in an HW landfill or TWW-approved landfill facility. TWW may be recycled, but its use is limited only to on-site purposes consistent with the FIFRA-approved use of creosote-treated wood (California Environmental Protection Agency 2011, California Department of Toxic Substances Control 2008, 30 USEPA 2008).

Repair and Modernization of Piers 2 and 3

In April 2015, the Army issued a ROD for the modernization and repair of Pier 2 and repair of Pier 3. The selected alternative, Alternative 1, would fully implement repairs to Piers 2 and 3, with Pier 2 re-oriented to align the west end with the existing shipping channel to create a more modernized configuration. The Army completed consultation with SHPO and NPS concerning the proposed action as required by Section 106 of the NHPA regarding the Army's determination that the proposed action will have no adverse effect on cultural resources or historic properties. The Army has also completed consultation with NMFS and USFWS as required by Section 7 of the ESA, as well as with NMFS as required by the Magnuson-Stevens Fishery Conservation and Management Act. As a result of these consultations, the Army has committed to the implementation of various avoidance, minimization, and compensation measures.

To extend the useful life of Pier 3 until Pier 2 is ready for missions, high-density polyethylene jackets will be installed around up to 1,753 of the most structurally significant timber piles located under the Main Platform and walkway that are currently infested by marine borers. Repairs to Pier 3 began in October 2015.

IRP Remedial Actions

As discussed previously, remedial actions within the Tidal Area are ongoing. In addition to USEPA oversight, the Army completes ESA Section 7 San Francisco Bay Conservation and Development Commission, and NHPA Section 106 consultations and CWA permitting for these actions. The capping of contaminated sediment at Sites 32 and 33 began in fall 2015 and was recently completed in June 2016 (MOTCO 2015). The action includes establishing an *in situ* cap of clean material over contaminated sediment in select former mosquito abatement ditches and sloughs. The passive cap materials generally consist of granular material such as sand, clean sediment, or gravel. Cap materials may also consist of reactive materials that can sequester or immobilize metal contaminants in sediment, creating a reliable, stable, and long-lasting cap in aquatic environments. The cap is being put in place with a helicopter to spread the material in the mosquito ditches and sloughs, eliminating the need for road construction in order to minimize the disturbance of the sensitive marsh surfaces and vegetation (USEPA 2011). After capping is complete, it is anticipated that 10 years of long-term management will take place. The remediation of Site 31, which includes the excavation of metal-contaminated waste material and trucking an estimated 32,000 CY of contaminated soil to an off-site disposal facility, was

recently completed in 2016 (MOTCO 2015). Site 31 is mostly vegetated with non-native grasses, although some areas of the site contain mature stands of coyote bush. There are two wetland areas (less than 1,000 SF each) at the northern boundary of the site. The haul route will be determined during the remedial design phase and would take into account that USEPA is not supportive of the Army trucking contaminated soil through Bay Point (USEPA 2012).

Pier 2 Modernization and Repair Design Changes

With respect to Pier 2, the EIS preferred alternative (Alternative 1) included demolition of a considerable portion of Pier 2 and replacement of the main platform and trestles and reorienting the west end of the pier. As the design of the modernization and repair progressed, the Army identified changes in the proposed Pier 2 layout (primarily the consolidation to a single trestle) that would result in more efficient pier operations and a reduction in construction costs. The current budget estimate for this project is $98 million. The Army is currently conducting a Supplemental EA to evaluate the changes between EIS Alternative 1 and the revised design. As part of the NEPA process, consultation with SHPO, USFWS, and NMFS has been reinitiated. The Supplemental EA is anticipated to be finalized in 2017.

In general, there are anticipated to be lesser environmental impacts with the revised design due to the reduced pier footprint. One of the elements of the revised design is further clarification regarding White Road repairs that would be implemented as part of the Pier 2 project. Specifically, two segments of White Road, from just west of Anderson Road intersection to just east of Pruett Road intersection, and the Pier 2 east trestle approach between the Christenbury Road and Murdoh Road intersections, are included in the Supplemental EA. These projects are designed to be consistent with the White Road repair projects evaluated in this EA; however, they have independent utility with respect to the modernization and repair of Pier 2. As with the White Road improvements, the height of these road segments would be raised from the existing level of 8 to 10 feet to 10 to 12 feet to provide an even grade throughout. The White Road repair segments just west of the Anderson Road intersection to just east of the Pruett Road intersection run through the current designated Port Chicago Naval Magazine National Memorial. Potential improvements to reduce the visual impacts of the road raising to the Memorial will be addressed and may include minor pedestrian and visitor amenities at the site.

Lot 2 Lighting Protection System Modification

A need to enhance the safety of the existing Lighting Protection System at Lot 2 has been identified. The modifications would consist of strengthening and adjusting existing construction by installing two new steel poles at a height to match existing poles and relocating an existing pole to within 10 feet of its existing location to support the reconfiguration of the catenary system. Two of the east-west running catenaries will be reconfigured, and a third, located in the center of the lot, would be removed. The pole foundations will consist of 36-inch diameter drilled piers (USACE 2016).

ACP #1 Upgrades

As previously noted, some components of upgrades to this gate were evaluated in the 2013 EA for Real Property, Natural Resource, and Cultural Resource Management Programs at MOTCO.

In lieu of the VCC evaluated in that EA, however, the current concept includes several smaller facilities. Instead of a 2,508-SF VCC, the current design includes a 940-square-foot guard house, a 900-square-foot VCC, a 500-SF mail freight facility, two 40-square-foot guard booths, and two 36-square-foot overwatch booths. An existing ammunition storage locker would be relocated. The demolition of two structures (Buildings IA-2 and 262) and 13,200 square yards of existing pavement are associated with this project. The current budget estimate for this project is $12.6 million. The overall footprint is similar to that analyzed in the EA, but additional NEPA requirements (likely a CX) are currently under evaluation by MOTCO (Personal communication, K. Garber, 2016).

Building 245 Renovation

This project renovates Building 245, the 8,300 SF former Navy transient quarters, to provide an adequate facility to serve as the consolidated security headquarters for MOTCO. The renovated building will house approximately 55 security and firefighter personnel that are currently housed in other facilities at MOTCO.

Periodic Dredging of Piers

Maintenance dredging was performed on a regular basis at NWSSBD Concord (now MOTCO) until 1986; since 1943, basins at Piers 2, 3, and 4 have been dredged nearly 20 times. Dredging was typically performed using a clamshell method to -32 feet mean lower low water (MLLW) at Piers 2, 3, and 4; -14 feet MLLW at the Barge Pier and east lighter mooring; and -22 feet MLLW at the west lighter mooring. Since 1943, a total of 1.8 million CY of dredged material has been removed from NWSSBD Concord (Army 2015). It is expected that within the next 5 to 10 years, maintenance dredging would be required at one or more of the piers to address shoaling that has occurred since the last dredging event. The quantity of dredging is not yet determined. Appropriate review would be conducted under NEPA and in accordance with associated Coastal Zone Management Act and CWA requirements prior to initiating any dredging actions.

Installation Maintenance and Master Plan

The January 2016, MOTCO's Installation Development Plan identified a number of projects, some of which have had some level of planning (and in some cases, are at the design stage). There are additional unmet needs further identified at MOTCO that the Army is considering evaluating, together with some of the Installation Development Plan projects in an EIS to be initiated in the next year or so. Based on current planning, the projects that may be included in this EIS include the following:

- Rail Upgrades. Based on recent inspections of MOTCO's rail network and track condition, there are a number of improvements that need to be made. In addition to the rail bridges discussed as part of this EA, approximately 16 miles of MOTCO's 38 total miles of rail lines are undersized, lack the appropriate turning radius for modern 89-foot rail cars, or do not meet other safety standards. Systematic rail improvements would replace track, repair protective barriers (berms) at the holding pads and barricaded rail sidings, and install Lighting Protection Systems for barricaded rail sidings. These improvements are currently scheduled to begin in 2019.

- Water and Wastewater Upgrades. Additional improvements are needed to the water and wastewater systems outside of the footprint of the systems that occur within the road footprints analyzed in the EA. These include improvements to various lines where the system is leaking, to include piping to the 1-million-gallon storage tank that is located on the MOTCO Tidal Area hillside. These improvements are currently scheduled to begin in 2019.

- Repairs to Building 542. This project, in the Inland Area, would harden the existing structure to meet AT/FP requirements so that the facility can be used as a primary gathering facility. Work largely includes interior construction activities. Personnel would be relocated as appropriate prior to, during, and after the improvements have been made. This project is currently planned for FY19.

- Assorted Fire Department Facilities. New facilities would include a bay to accommodate a new fire truck, a training tower, and possibly other fire training facilities to be constructed in the Inland Area to support training for various emergency response scenarios. This project is currently planned for FY21 or later.

- ACP # 2 Upgrades. This project would include lighting and traffic flow upgrades and safety improvements. This project is currently planned for FY21 or later.

- Improvements to Accommodate Waterfront Security Vessels. This project may include facility improvements or the construction of new facilities for berthing of vessels. This project is currently planned for FY21 or later.

- Motor Pool Relocation. To improve operational and functional efficiencies, the motor pool would be relocated from the current site at Building A-32 to a more optimal site. This project is currently planned for FY21 or later.

- Murdoh/Main Street Bridge. This project, which would construct a new bridge over the rail lines at this location and provide for more efficient mission operations, is currently planned for FY21 or later.

- Rail Bridge T-9 Replacement. This bridge, which is currently a timber structure, would be redesigned and replaced using concrete piles. This project is currently planned for FY21 or later.

- Various Renewable Energy and Sustainability Projects. The potential for renewable energy projects at MOTCO remains under evaluation. Recommended projects could result from these evaluations, although none have been specifically identified at this time. Similarly, potential projects for improvements to energy and water consumption to improve the sustainability posture of the installation remain under evaluation and also may materialize into projects appropriate to analyze in this EIS.

Community Transportation Projects

In 1985, the Contra Costa County Board of Supervisors passed a resolution forming the Bay Point Area of Benefit (AOB) Program. The purpose of the Bay Point AOB Program is to help fund improvements to the County's roadway, bicycle, and pedestrian facilities to accommodate travel demand generated by new land development within the unincorporated portion of the AOB (DKS Associates 2016). At the time of its formation, there were many vacant parcels in the AOB with potential for residential development, and the existing transportation system was inadequate to handle to the additional traffic generated by the projected development. In 1991, 1996, and 1998, and again most recently in 2016, the Bay Point AOB Program was revised to reflect the changing needs of the area. Over the past 28 years, the AOB fees have helped pay for improvements to Willow Pass Road, Bailey Road, Port Chicago Highway, Pacifica Avenue, and Driftwood Drive.

In recent years, most of the residential development potential within the AOB has been fulfilled, and many of the original projects on the Bay Point AOB Program project list have been constructed. These changes prompted the 2016 revision, which also resulted in a new project list. The project list is focused on the major transportation needs in the County's General Plan, which describes major roadway, transit, bikeway, and pedestrian facilities (DKS Associates 2016). The list generally consists of the following types of projects:

- Installing traffic signals at intersections that meet warrants for their installation
- Adding turn lanes at intersections to meet LOS standards
- Adding lanes on roadway segments to meet LOS standards
- Upgrading roadways to be consistent with the County's design standards
- Providing appropriate pedestrian and bicycle facility improvements

The 2016 draft project list was presented to the Bay Point Municipal Advisory Council (MAC), which supported the list and did not request any changes to the draft list. Thus, the draft list was approved as the final project list. Three projects from the final list are recommended in the vicinity of the proposed action and are included in this cumulative effects analysis: pedestrian and bicycle improvement along Port Chicago Highway from Driftwood Drive to West of McAvoy Road; realignment of the curve and addition of pedestrian and bicycle improvements along Port Chicago Highway from West of McAvoy Road to Pacifica Avenue; and multi-modal safety improvements on Port Chicago Highway at Willow Pass Road (DKS Associates 2016).

Project costs for the above-mentioned projects have been estimated and range from $1.78 million to $2.83 million (DKS Associates 2016). Contra Costa County has various methods for funding transportation improvements within the Bay Point AOB. While the Bay Point AOB fee program is one method, additional funding will need to be obtained to fund the projected costs of the projects. On an ongoing basis, the county assesses the unconstructed projects on the AOB project list and determines project priorities. As enough funding becomes available from all sources to implement the projects identified as priorities, the county would implement those projects (DKS Associates 2016). One project, Port Chicago Highway from West of McAvoy Road to Pacifica Avenue, was on the 1998 list and is carried over to the 2016 list because it has not yet been completed. According to DKS Associates (2016), as of March 2015, the Bay Point

AOB had a fund balance of $946,311. This existing fund balance is earmarked to fund the project carried over from the previous list (DKS Associates 2016).

A Community-Based Transportation Plan for Bay Point was developed in 2006 by Contra Costa County, with the assistance of a consultant team headed by Moore Iacofano Goltsman (MIG). Contra Costa County (2007) used previous planning efforts in the community and involved key stakeholders, transportation providers, and community members to develop a community-based transportation plan with the goal of improving the following:

- All types of transportation
- Access to services and activities
- Quality of life for all community members
- Environment such as air water, and noise
- Sense of community for the unincorporated area

High priority projects and programs emerged from the planning effort, which were then assigned cost estimates, potential funding sources, and responsible parties associated with them (Contra Costa County 2007). In particular, one high-priority project is proposed within the vicinity of the proposed action and is included in this cumulative effects analysis. The proposed project would provide a larger, formal crossing guard program at Bay Point schools and is estimated to cost approximately $85,000 to $90,000 annually (Contra Costa County 2007). The proposed project involves increasing the number of street crossing guards adjacent to Bay Point schools by converting the existing small, volunteer program into a more formal, institutionalized, and permanently funded one. The proposed program would have paid crossing guards, as well as a paid program coordinator, to help ensure that a high-quality program exists. The crossing guards would assist students across streets adjacent to the following Bay Point schools on a regular and consistent basis: Bel Air Elementary, Rio Vista Elementary, Riverview Middle, and Shore Acres Elementary (Contra Costa County 2007).

The time frame for implementation of the proposed program was approximately 1 to 3 years; however, the program has not yet been implemented and no lead agency has been identified, although the Contra Costa County Sherriff's Department or Mount Diablo Unified School District have previously been identified as possible lead agencies, and possible funding opportunities have also been identified (Contra Costa County 2007).

Regional Shoreline Restoration Project

The Bay Point Regional Shoreline Restoration Project, outlined in the 2013 Bay Area Integrated Regional Water Management Plan, is located in the vicinity of the proposed action and included in this cumulative effects analysis. Specifically, it is located in Bay Point at the end of McAvoy Road on Suisun Bay. The sponsoring agency for the project is the East Bay Regional Park District (Bay Area Integrated Regional Water Management Plan 2013). Project work began in 2014 and is still ongoing. When fully implemented, the project would preserve and restore a 48-acre parcel of marshland and provide access to the bay shoreline. It would also restore 16 acres of filled areas with tidal areas. In total, the Bay Point Regional Shoreline would consist of 138 acres of marsh and uplands at the Bay Point Waterfront.

Restoration work would involve major earthmoving, removal of levees, and lowering the elevation of previously filled marshland. Cut and fill would be balanced on-site if possible, with fill material being deposited on upland areas. The project design would create self-sustaining channels that would minimize or eliminate the need for future dredging. The project would also balance the preservation of the existing vegetation communities on-site (e.g., seasonal ponds) with the improvement of marsh habitat and would implement cattail maintenance and invasive weed abatement activities.

Proposed resource management actions associated with the project include monitoring existing special-status populations and maintaining viable habitat for these species, appropriately managing invasive species using East Bay Regional Park District's standard vegetation management techniques, and restoring 16 acres of filled areas to tidal marsh. A trail on the south, west, and east perimeters of the project area would provide access to the marsh and wildlife viewing. These viewing opportunities would be enhanced by the construction of an observation facility with interpretive panels, benches, and a short loop trail and boardwalk extending to a small marsh channel. Public safety would be maintained by fencing the southern boundary of the site, thereby reducing vandalism in the area. This fence would also help prevent free-roaming pets from accessing the site and disturbing wildlife.

Actions proposed for marsh restoration include draining seasonal non-tidal ponds; dredging, excavating, and grading; and creating new channels to allow tidal waters to enter the existing ponds. Approximately 100,000 CY of dredged fill would be deposited throughout the upland areas. No off-site disposal of fill is anticipated. A total of 16 acres of new tidal marsh would be created, which would more than double the tidal marsh area on the project site (from 11 to 27 acres). Restoration would include creating a channel (approximately 100 feet wide) into the site and enlarging existing indentations on the western side of the J-shaped channel to create fish habitat. Once completed, the Bay Point Regional Shoreline would be one of the few places where residents of the community would have ready access to the marsh, its channels, and the Suisun Bay Shoreline.

4.3 DETERMINATION OF THE MAGNITUDE AND SIGNIFICANCE OF CUMULATIVE EFFECTS ON THE SELECTED RESOURCES

4.3.1 Water Resources

Description of Geographic Study Area

Impacts to water resources are typically localized. Therefore, the study area considered in the cumulative analysis for this resource is limited to projects that may occur within the Tidal Area at or in very close proximity to the proposed action.

Relevant Past, Present, and Future Actions

Several of the projects planned by the Army within the Tidal Area (as listed in Table 4-1) are relevant in that they could impact surface waters or wetlands within a similar time frame as the proposed action. These actions include the Pier 2 modernization, RPMP projects and upgrades, repair of bridges, roads, and utilities, and IRP remedial actions.

Cumulative Impact Analysis

Under the proposed action, no groundwater withdrawals are expected. Drainage patterns of surface waters would not be impacted by the proposed action, and water quality, wetlands, and floodplains would remain unchanged. In addition, there would be negligible change in the amount of impervious surface. As mentioned previously, the Army would obtain proper permits, prepare a site-specific SWPPP and site-specific erosion and sedimentation controls, and other BMPs would be in place during ACP construction as SOPs.

Some of MOTCO's other projects with potential water resource impacts could be implemented concurrent with the proposed action. These include the Pier 2 modernization, temporary dewatering for the replacement of pile sections below the mudline for several bridge repairs, and IRP projects. Other projects with potential water resources impacts are not expected until further in the future; these include the periodic dredging of the piers and various installation maintenance and master plan projects. Where the projects could be implemented concurrently, there is potential for additive impacts in terms of increased turbidity within Suisun Bay from the Pier 2 modernization and from other proposed in-water work at several bridges. However, the potential increased turbidity associated with these projects would be mainly localized at the project sites. The IRP remedial actions at Site 32 and 33 would result in localized impacts on Middle Point Marsh and Lost Slough wetlands. The potential for contaminated soil excavation at IRP Site 31 to impact water resources would be minimal with adherence to proper soil and erosion control protocols. However, there are no adverse water resources effects associated with the proposed action, the proposed action is not near the water resources potentially affected by other MOTCO actions, and the potential for additive effects from the proposed action would be appropriately addressed in the permits, SWPPP, BMPs, and SOPs mentioned previously.

In conclusion, individually MOTCO projects would result in short-term and localized impacts on water quality, and it is expected that the environment would recover following conclusion of each project. Moreover, permit requirements would minimize individual project impacts to the fullest extent possible. As a result, no significant adverse cumulative impacts on water resources are anticipated.

4.3.2 Air Quality

Description of Geographic Study Area

The study area considered in the cumulative impacts analysis for air quality includes areas on and near MOTCO.

Relevant Past, Present, and Future Actions

The local construction projects planned by the Army, including the IRP projects, are relevant in that they would produce emissions that would be additive to those produced by implementation of the proposed action.

Cumulative Impact Analysis

In terms of short-term cumulative impacts, the proposed action and other regional projects could produce short-term additive amounts of emissions if they are concurrent. As part of the air quality analysis in this EA, a General Conformity applicability analysis was performed to determine if maximum annual direct and indirect emissions from the proposed action would exceed *de minimis* thresholds. Based on the air quality analysis performed for the proposed action, the maximum estimated emissions would be below conformity *de minimis* levels. The other actions listed in Table 4-1 were either assessed through NEPA to be below conformity *de minimis* level or would be expected to have *de minimis* levels of emissions. Therefore, it is not anticipated that air emissions from other past, present, and future actions, when considered incrementally with the proposed action, would exceed any regulatory standards.

4.3.3 GHG Emissions and Climate Change

Recent climate research has documented global warming during the twentieth century and has predicted continued or accelerated global warming for the twenty first Century and possibly beyond (Intergovernmental Panel on Climate Change 2007). One impact of continued or accelerated climate warming is the continued or accelerated rise of global mean sea level. Sea level rise can cause a number of impacts in coastal and estuarine zones, including changes in shoreline erosion, inundation or exposure of low-lying coastal areas, changes in storm and flood damages, shifts in extent and distribution of wetlands and other coastal habitats, changes to groundwater levels, and alterations to salinity intrusion into estuaries and groundwater systems.

Description of Geographic Study Area

Since the potential effects of climate change are by nature global, the study area for this aspect is not defined.

Relevant Past, Present, and Future Actions

Because of the global nature of climate change, any GHG-producing action in the past, present and future, due to anthropogenic or natural causes, would be relevant. Given this broad scope, these actions do not require further delineation.

Climate Change Impacts on MOTCO Operations

Changes in California's climate are well documented. Statewide average temperatures increased by about 1.7 degrees Fahrenheit from 1895 to 2011, and warming has been greatest in the Sierra Nevada, which is the location of the snowpack storage on which California's water supply system depends. By 2050, California is projected to warm by approximately 2.7 degrees Fahrenheit above 2000 averages, a three-fold increase in the rate of warming compared to last century. Springtime warming, which is a critical influence on snowmelt, will be particularly pronounced (California Commission on Climate Change 2012). Recent studies have projected that sea levels along the California coast could be 10 to 18 inches higher in 2050 than in 2000 (California Commission on Climate Change 2012). The USACE, Sacramento District, has further evaluated sea level rises of up to 1.4 feet during this period (USACE 2011). Given the

current projections of sea level rise within that planning horizon, it is possible that storms defined as 100-year storms today could occur annually in the future.

Planning for increased sea levels and increased storm frequency would help mitigate potential flooding issues at MOTCO. The USACE, Sacramento District, has evaluated sea level rise and storm impacts for MOTCO and determined a design stage of 9.01 feet for a 100-year flood. In addition, the increased risk of severe storms, wildfires, drought, and higher frequencies of extreme heat associated with climate change all have the potential to impact MOTCO operations on a periodic basis.

Cumulative Impact Analysis

The proposed action would primarily generate GHG emissions as a result of ACP construction. There are no apparent carbon sequestration impacts that would result from implementation of the proposed action. Thus, the total direct and indirect impacts would most likely be constrained to small increases in GHG emissions to the atmosphere as a result of construction activities. In conclusion, the proposed action would incrementally contribute to global emissions, but not in such magnitude as to make a direct correlation with climate change.

4.3.4 Biological Resources

Description of Geographic Study Area

The study area considered in the cumulative impacts analysis for biological resources includes the area located in proximity to the proposed action. The limits of the study area for cumulative impacts encompass the area within which biologically meaningful changes in the environment of these resources would occur as a result of the implementation of the proposed actions. This includes consideration of the project's effects on habitats, vegetation, wildlife, and special status species.

Since the biological resources of the Bay-Delta region are mobile, they may experience impacts of the types caused by the proposed action but relatively far from MOTCO. Accordingly, consideration is given to whether the project's impacts would contribute to cumulative effects that are occurring to the species and habitats of interest on a regional scale from diffuse activities.

Relevant Past, Present, and Future Actions

All projects listed in Table 4-1 are relevant for potential cumulative impacts on biological resources. However, the past MMRP actions would not be expected to have cumulative impacts on biological resources with the proposed action, and there are no reasonably foreseeable components of the program that would impact biological resources.

Cumulative Impact Analysis

The RPMP projects, portions of the Pier 2 improvement projects, Lot 2 Light Protection System modifications, and roads, bridges, and utilities upgrades are occurring in primarily previously disturbed areas of the Tidal Area; however, none would disturb areas similar to that of the proposed action. The noise and activity associated with the construction and demolition from

these actions would be expected to have similar impacts on terrestrial species. To the extent that project activities occur in close proximity and at or near the same time, there would be additive impacts on resident and transient species. These impacts would be expected to be minor.

With respect to the shoreline/in-water actions, the improvements for Pier 2 modernization, periodic dredging of piers, and possible projects under the maintenance and master plan all have the potential for impacts on the shoreline and offshore areas of MOTCO that have the potential to have additive impacts with the proposed White Road repairs and the repairs to several bridges. The potential biological resources impacts of other identified projects are primarily at the shoreline and are due to on-shore construction activity and in-water noise from in-water work associated with some aspects of these projects. Based on the Army's current project schedules, the largest-scale project, the Pier 2 modernization project, would be completed before the White Road repairs and three bridge projects would be implemented, and many of the future projects, such as those under the maintenance and master plan would not occur until after the proposed action is implemented. The highest potential for additive impacts is in the highly impacted White Road corridor, where the portions of the White Road improvements that are occurring with the Pier 2 modernization would have additive impacts with the White Road improvements under the proposed action. Both actions would be implemented with similar protective measures for biological resources and under the terms of consultations with USFWS and NMFS regarding federally threatened and endangered species and critical habitat. Therefore, any cumulative shoreline/in-water impacts on biological resources would be minimal to negligible. Furthermore, the proposed action would not occur within the shoreline/in-water areas impacted by other MOTCO projects. In conclusion, significant adverse cumulative impacts on biological resources are not anticipated.

4.3.5 Transportation and Traffic

Description of Geographic Study Area

For any project, temporary traffic increases would be observed on roads used for the transport of construction equipment, materials, and workers to and from job sites. Thus, the study area considered in the cumulative analysis for transportation infrastructure includes roadways on the installation, ACPs, and roadways off the installation, particularly designated county truck routes, and the access route associated with the new ACP (Port Chicago Highway) through the community of Bay Point.

Relevant Past, Present, and Future Actions

Most all construction, demolition, and remediation projects described in Section 4.2.1.1 would utilize existing transportation infrastructure and are thus relevant to the cumulative analysis. A total trip count has not been provided for each project, but potential traffic impacts have been evaluated at varying levels of detail of where NEPA documentation has been completed.

Cumulative Impact Analysis

A significant amount of work is proposed to occur at MOTCO between 2017 and 2021 that would increase the volume of traffic in the study area, as well as traffic using the new ACP, during normal work hours. It is anticipated that some projects may overlap, but there are uncertainties on timing as all projects are subject to implementation timelines that can change based on numerous factors. For each project, traffic impacts would be short-term in nature, lasting no more than the duration of the project, and the majority of the projects would confer minor volume increases within the context of average roadway traffic. Additionally, each individual project would require the construction/demolition contractor to prepare a project-specific haul route or transportation plan. This plan would describe regular and mission-related detours and specific ACP use for construction vehicles, deliveries, and workers; specify laydown area use; and establish appropriate traffic control and signage. This continued oversight would assist the installation in the prevention of traffic-related issues as daily traffic interacts with core mission functions and multiple or ongoing construction/demolition activities. Thus, although the proposed action would contribute additional truck traffic within Bay Point and would also contribute to increased use of transportation infrastructure, including on-installation roads, off-installation access routes, and the new ACP, impacts on transportation resources are not expected to become cumulatively significant on or off the installation.

A unique feature of the road transportation network near MOTCO is the presence of the Bay Point AOB. The Bay Point AOB is located east of MOTCO and encompasses portions of the Bay Point neighborhood of unincorporated Contra Costa County as well as the cities of Concord and Pittsburg. The Area of Benefits is a traffic mitigation fee program that is used to improve the capacity and safety of the transportation network. Fees are collected from property developers that add vehicle trips to the road network. These fees are then used for improvement projects that mitigate impacts from new developments. Funds from the Bay Point AOB have been previously used to help pay for improvements to Willow Pass Road, Bailey Road, Port Chicago Highway, Evora Road, Pacifica Avenue, and Driftwood Drive (Contra Costa County 2013).

4.3.6 Environmental Justice

Description of Geographic Study Area

The study area considered in the cumulative analysis for environmental justice includes the two minority and/or low-income communities in proximity to MOTCO: Clyde and Bay Point. These communities would be affected by the movement of construction/demolition/remediation traffic on existing roadways and through ACP #2 and the new ACP.

Relevant Past, Present, and Future Actions

As analyzed for transportation, most all of the construction, demolition, and remediation projects described in Section 4.2.2.1 would require the use of ACP #2 or the new ACP and thus are collectively relevant to environmental justice concerns.

Cumulative Impact Analysis

Due to the short-term nature of most projects and the relatively minor volume increases within the context of average roadway traffic, it is not anticipated that traffic increases related to construction, demolition, or remediation activities would have a long-term or substantial impact on local communities. However, increased construction, demolition, and remediation activities at MOTCO would increase the volume of traffic and noises experienced at and near the ACPs and thus cause the disproportionate exposure of low income/minority neighborhoods to increased traffic and noise near these locations. These effects would be additionally pronounced if traffic backs up at ACP #2 or at the new ACP; however, this is not anticipated. Further, some of the trucks would be hauling demolition material classified as hazardous waste, TWW, or toxic substances. Neither the increased traffic nor the transport of contaminated materials put adjacent communities at increased safety risk; however, per discussions surrounding the remediation of MOTCO IRP Site 31, it is understood that USEPA is not supportive of the Army trucking hazardous waste through Bay Point (USEPA 2012).

As there is no truck ACP to MOTCO that is not adjacent to a minority and/or low-income community, there are no options for hauling materials and debris for off-site disposal that do not in some way impact Clyde or Bay Point communities. Thus, in order to complete the various projects anticipated at MOTCO, BMPs would be established for each project in order to alleviate the potential nuisance to these areas. Each project requires the construction/demolition contractor to prepare a project-specific haul route or transportation plan to manage traffic flow and prevent stacking at the ACPs to the greatest extent possible, and the Army would provide notification to the community when high levels of truck traffic are anticipated. Transportation plans would likewise dictate alternate off-installation routes that would avoid trucking all materials through residential areas. There would be a limited amount of hazardous waste that may be generated from most projects at any given time, and transportation of all such waste would be in compliance with all federal, state, and local regulations, including adhering to local regulations on containment, transportation, signage, and routing.

In conclusion, individually each project may result in short-term and localized traffic impacts that may disproportionally affect low income/minority communities adjacent to the installation. However, BMPs would minimize the magnitude and duration of individual project impacts to the fullest extent possible. As a result, no significant adverse cumulative impacts to Clyde and Bay Point communities are anticipated.

4.3.7 Cultural Resources

Description of Geographic Study Area

The study area considered in the cumulative analysis for cultural resources is the general area surrounding proposed action. Although further removed from the project area, the Port Chicago Naval Magazine National Memorial, including the visitation parking facilities, is also included in the cumulative analysis due to its high cultural value.

Relevant Past, Present, and Future Actions

Modernization and repair of Pier 2 and projects to repair bridges, roads, and utilities include the repair segments of White Road near the Port Chicago Naval Magazine National Memorial. The segment of White Road that bisects the current Port Chicago Naval Magazine National Memorial site is part of the Pier 2 project. Therefore, the assessment of impacts of the White Road repairs on the Port Chicago Naval Magazine National Memorial (including the NHPA Section 106 consultation) is primarily being discussed in the Pier 2 Supplemental EA in preparation. The segments of White Road that are part of MOTCO's road repair projects may occur within a similar time frame, such that visual, atmospheric, and audible impacts anticipated during demolition and construction activities may be perceived at the parking lot for the Port Chicago Naval Magazine National Memorial.

Cumulative Impact Analysis

Although the White Road and Pier 2 repairs may both have potential impacts to the parking lot supporting the Port Chicago Naval Magazine National Memorial, the projects are not likely to interact in a way that would exacerbate the nuisance perceived by visitors. To the extent practicable, the Army would not engage in construction activities that would result in visual, atmospheric, or audible impacts during times when visits to the Memorial are scheduled. Although access to the Port Chicago Naval Magazine National Memorial for public visitation may be inconvenienced by rerouting when various construction, demolition, or remediation projects are underway, it is intended that access to the Port Chicago Naval Magazine National Memorial would remain available throughout the implementation of all proposed projects, and no direct impacts on the the Port Chicago Naval Magazine National Memorial would occur.

As previously discussed in Section 3.12.1, the Nichols School Site (CA-CCO-638H), is located immediately east of the project area (see Figure 2-2), but would be avoided during construction of the proposed ACP. During the April 2015 cultural resources survey, no evidence of potentially NRHP eligible prehistoric or historic archaeological sites were encountered, and the Army determined that the proposed action qualified for a finding of *no historic properties affected*. In a May 2015 Section 106 consultation letter to the SHPO (Appendix A), the Army sought concurrence with their determination. Consultation with the SHPO is still ongoing; however, the Army anticipates concurrence with their determination. Before construction would begin on the new ACP, Section 106 SHPO concurrence must be received. In conclusion, significant adverse cumulative impacts on cultural resources are not anticipated.

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5.0 LIST OF PREPARERS AND CONTRIBUTORS

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APPENDIX A

PUBLIC INVOLVEMENT

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East County Times
1700 Cavallo Road
Antioch, CA 94509
925-779-7115

3762423

GULF SOUTH RESEARCH CORP
8081 INNOVATION PARK DR.
BATON ROUGE, LA 70820

PROOF OF PUBLICATION

FILE NO. MOTCO Bay Point

In the matter of

East County Times

I am a citizen of the United States. I am over the age of eighteen years and I am not a party to or interested in the above entitled matter. I am the Legal Advertising Clerk of the printer and publisher of the East County Times, a newspaper published in the English language in the City of Antioch, County of Contra Costa, State of California.

I declare that the East County Times is a newspaper of general circulation as defined by the laws of the State of California as determined by court decree dated January 6, 1919, Case Number 8268 and modified January 19, 2006, Case Number N05-1494. Said decree states that the East County Times is adjudged to be a newspaper of general circulation for the City of Antioch, County of Contra Costa and State of California. Said order has not been revoked.

I declare that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

05/04/2016

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Executed at Walnut Creek, California.
On this 16th day of May, 2016.

Signature

Legal No. **0005719593**

Public Meeting

What: The Military Ocean Terminal Concord **(MOTCO)** will host a public meeting in Bay Point, California to receive public input as it prepares an Environmental Assessment (EA) for the Construction and Operation of New Access Control Point (ACP) on MOTCO.
The intent of the meeting is to provide information regarding MOTCO's Proposed Action to construct and operate a new ACP, address questions regarding the Proposed Action, and receive public input. Time is allotted for a formal presentation and for the public to view maps, ask questions, and provide written comments.
When: May 18, 2016
6:00 p.m. to 6:30 p.m. Open House
6:30 p.m. to 8:00 p.m. Presentation and Discussion
Where: Riverview Middle School, Room 606, 205 Pacifica Avenue, Bay Point, California 94565

About MOTCO: MOTCO is an Army Military Surface Deployment and Distribution Command (SDDC) munitions and general cargo trans-shipment facility located at a strategic site along Suisun Bay in north-central Contra Costa County, California. MOTCO is designated as the Department of Defense primary trans-shipment port for West Coast ammunition movements. MOTCO receives ammunition by rail and highway; stages containers, railcars, and trailers; and loads vessels with containers and breakbulk (loose items) ammunition; however, MOTCO does not store ammunition. Rail lines, piers, holding pads, transfer facilities, staging areas, railcar class yards, barricaded railcar holding areas, and main supply routes are operated in support of cargo receipt and movement. In recent years, shortfalls in access control have been identified in vulnerability assessments. There are presently three designated ACPs on MOTCO; however, there is no dedicated truck inspection area on the installation. The proposed ACP is necessary to provide the primary truck inspection station for MOTCO that meets all current requirements, including the U.S. Army Access Control Points Standard Design Criteria.

Any questions regarding the public meetings or Proposed Action should be directed to Mr. Guy Romine, Remedial Program Manager, 5110 Port Chicago Highway, Concord, California 94520 at (925) 246-4024.

ECT# 5719593 May 4, 2016

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DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

MAY 2 8 2015

Carol Roland-Nawi, PhD
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Dr. Roland-Nawi:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) (36 CFR 800.4[a][1]) and finding of *no historic properties affected* (36 CFR 800.4[d][1]). The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

The project activities described in Enclosure 1 would involve the construction of a gate house, search area office, overwatch booth, guard booths, truck inspection canopies, parking, lighting, traffic control signals, information systems, antiterrorism and force protection measures, Intrusion Detection System installation, roads and pavements, and Energy Monitoring Control Systems connections. The APE is shown in Enclosure 1, Figure 2. The footprint of the gate design will encompass 8.6 total acres (37,500 square feet) with 3.9 acres (17,000 square feet) of pavement. Access to the project area would be via existing paved roads and the APE would be limited to the construction project area.

The records search revealed two previously recorded cultural resources within the vicinity (but outside) of the APE for ACP # 5. The Getty Oil Site (CA-CCO-639H) is nearby but outside of the APE. The site of the Nichols School (CA-CCO-638H), which consists of a short concrete walkway, and a light scatter of wood, metal, and plastic is within the APE, however, it will be avoided by the proposed project. Both CA-CCO-639H and CA-CCO-638H have been determined not eligible for listing in the National Register of Historic Places, in concurrence with the SHPO.

On April 23, 2015, Corps Archaeologist, Nikki Polson, M.A. and Corps Cultural Resources Specialist, Stefanie Adams, performed a pedestrian survey of the APE for the area around ACP # 5, inspecting the ground surface in 10-15 meter transects. The area was found to be highly disturbed and there was evidence of burning in several portions of the survey area. Overall visibility in the area was between 0-75 percent with an average visibility of approximately 25 percent. Due to the limited visibility within portions of the survey area, shovel scrapes were performed at every 100 meters along two of the transects to check for cultural resources. All shovel scrapes resulted in non-cultural soil with no artifacts present.

The pedestrian survey resulted in the discovery of some recent historic trash debris of indeterminate age with miscellaneous pieces of non-diagnostic metal and rubber as well as a cement-filled pipe (MOTCO-ISO-1) and a cement-like wall base approximately one foot wide, four inches tall, and 120 feet in length with rebar sticking out of it every two feet (MOTCO-ISO-2). Additionally, several pieces of dark-brown colored glass were found in the area where the old schoolhouse (CA-CCO-638H) used to be. The survey work and findings are described in more detail in the enclosed memorandum. No evidence of archaeological sites or materials was encountered in the APE. The Army finds that there are no historic properties present in the APE and the project qualifies for a finding of *no historic properties affected* (36 CFR 800.4[d][1]).

The Army is seeking your concurrence with our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected.* If you have any questions or comments please contact Malcolm Charles at (925) 246-4023 or by email at malcolm.e.charles.civ@mail.mil.

Sincerely,

Malcolm Charles
Director of Public Works

Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

MAY 2 8 2015

Mr. Dave Jones
Wintun Environmental Protection Agency
P.O. Box 1839
Williams, California 95987

Dear Mr. Jones:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected.* The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

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The Army is seeking your comments regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected*. If you have any questions or comments please contact Malcolm Charles at (925) 246-4023 or by email at malcolm.e.charles.civ@mail.mil.

Sincerely,

Malcolm Charles
Director of Public Works

Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

Ms. Irene Zwierlein, Chairperson
Amah/Matsun Tribal Band
789 Canada Road
Woodside, California 94062

MAY 2 8 2015

Dear Chairperson Zwierlein:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected*. The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

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Sincerely,

Malcolm Charles
Director of Public Works

Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

MAY 2 8 2015

Ms. Ann Marie Sayers, Chairperson
Indian Canyon Matsun Band of Costanoan
P.O. Box 28
Hollister, California 95024

Dear Chairperson Sayers:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected.* The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

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Sincerely,

Malcolm Charles
Director of Public Works

Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

MAY 2 8 2015

Ms. Katherine Erolinda Perez
P.O. Box 717
Linden, California 95236

Dear Ms. Perez:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected*. The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

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portions of the survey area. Overall visibility in the area was between 0-75 percent with an average visibility of approximately 25 percent. Due to the limited visibility within portions of the survey area, shovel scrapes were performed at every 100 meters along two of the transects to check for cultural resources. All shovel scrapes resulted in non-cultural soil with no artifacts present.

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Sincerely,

Malcolm Charles
Director of Public Works

Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

MAY 2 8 2015

Mr. Marshall McKay, Chairperson
Yocha Dehe Wintun Nation
P.O. Box 18
Brooks, California 95606

Dear Chairperson McKay:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected.* The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

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Sincerely,

Malcolm Charles
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Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

MAY 2 8 2015

Ms. Elaine Patterson, Chairperson
Cortina Band of Indians
P.O. Box 1630
Williams, California 95987

Dear Chairperson Patterson:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected*. The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

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Sincerely,

Malcolm Charles
Director of Public Works

Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

MAY 2 8 2015

Ms. Ramona Garibay
Trina Marine Ruano Family
30940 Watkins Street
Union City, California 94587

Dear Ms. Garibay:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected*. The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

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Sincerely,

Malcolm Charles
Director of Public Works

Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

MAY 2 8 2015

Mr. Andrew Galvan
The Ohlone Indian Tribe
P.O. Box 3152
Fremont, California 94539

Dear Mr. Galvan:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected.* The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

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Sincerely,

Malcolm Charles
Director of Public Works

Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

MAY 28 2015

Mr. Kesner Flores
P.O. Box 1047
Wheatland, California 95692

Dear Mr. Flores:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected*. The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

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Sincerely,

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Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

Director of Public Works

MAY 2 8 2015

Ms. Rosemary Cambra, Chairperson
Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
P.O. Box 360791
Milpitas, California 95036

Dear Chairperson Cambra:

The Department of the Army, Military Surface Deployment and Distribution Command (Army), is writing to consult on the proposed construction of a standard design Access Control Point (ACP # 5) at Military Ocean Terminal, Concord (MOTCO) in Contra Costa County, California. In this letter, the Army is seeking your comments and thoughts regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected.* The project area is located in Township 2 North, Range 1 West on the Honker Bay, California (1980) 7.5 minute U.S.G.S. quadrangle (as seen in Enclosure 1, Figure 1).

The project activities described in Enclosure 1 would involve the construction of a gate house, search area office, overwatch booth, guard booths, truck inspection canopies, parking, lighting, traffic control signals, information systems, antiterrorism and force protection measures, Intrusion Detection System installation, roads and pavements, and Energy Monitoring Control Systems connections. The APE is shown in Enclosure 1, Figure 2. The footprint of the gate design will encompass 8.6 total acres (37,500 square feet) with 3.9 acres (17,000 square feet) of pavement. Access to the project area would be via existing paved roads and the APE would be limited to the construction project area.

The records search revealed two previously recorded cultural resources within the vicinity (but outside) of the APE for ACP # 5. The Getty Oil Site (CA-CCO-639H) is nearby but outside of the APE. The site of the Nichols School (CA-CCO-638H), which consists of a short concrete walkway, and a light scatter of wood, metal, and plastic is within the APE, however, it will be avoided by the proposed project. Both CA-CCO-639H and CA-CCO-638H have been determined not eligible for listing in the National Register of Historic Places, in concurrence with the SHPO.

On April 23, 2015, Corps Archaeologist, Nikki Polson, M.A. and Corps Cultural Resources Specialist, Stefanie Adams, performed a pedestrian survey of the APE for the area around ACP # 5, inspecting the ground surface in 10-15 meter transects. The

area was found to be highly disturbed and there was evidence of burning in several portions of the survey area. Overall visibility in the area was between 0-75 percent with an average visibility of approximately 25 percent. Due to the limited visibility within portions of the survey area, shovel scrapes were performed at every 100 meters along two of the transects to check for cultural resources. All shovel scrapes resulted in non-cultural soil with no artifacts present.

The pedestrian survey resulted in the discovery of some recent historic trash debris of indeterminate age with miscellaneous pieces of non-diagnostic metal and rubber as well as a cement-filled pipe (MOTCO-ISO-1) and a cement-like wall base approximately one foot wide, four inches tall, and 120 feet in length with rebar sticking out of it every two feet (MOTCO-ISO-2). Additionally, several pieces of dark-brown colored glass were found in the area where the old schoolhouse (CA-CCO-638H) used to be. The survey work and findings are described in more detail in the enclosed memorandum. No evidence of archaeological sites or materials was encountered in the APE. The Army finds that there are no historic properties present in the APE and the project qualifies for a finding of *no historic properties affected* (36 CFR 800.4[d][1]).

The Army is seeking your comments regarding our determination and documentation of the area of potential effects (APE) and finding of *no historic properties affected*. If you have any questions or comments please contact Malcolm Charles at (925) 246-4023 or by email at malcolm.e.charles.civ@mail.mil.

Sincerely,

Malcolm Charles
Director of Public Works

Enclosure

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

July 25, 2016

Dr. Paul Scolari
Chief of Cultural Resources
National Park Service
440 Civic Center Plaza, Suite 300
Richmond, CA 94804

Dear Dr. Scolari:

Subject: ENVIRONMENTAL ASSESSMENT (EA) FOR THE CONSTRUCTION AND OPERATION OF A NEW ACCESS CONTROL POINT (ACP), MILITARY OCEAN TERMINAL CONCORD (MOTCO), CALIFORNIA

The Department of the Army is in the initial stages of preparing an EA to evaluate the potential environmental and social impacts that could result from construction and operation of a new ACP at MOTCO. A new ACP is needed to meet safety, operational, facilities management, land use, and natural and cultural resources management objectives. This analysis is being conducted in accordance with the National Environmental Policy Act of 1969 (NEPA). We would like to inform you about both the proposed action and the Army's public scoping process.

Scoping is an early and open public involvement process aimed at determining the scope of issues to be addressed, and identifying the significant issues related to a proposed action. The Army initiated the public scoping process with a presentation to the Clyde Community Board of Supervisors in Clyde, California on May 4, 2016. Also on May 4, 2016, a Public Meeting Notice for an additional scoping meeting in Bay Point, California was published in the *East Bay Times*. On May 18, 2016, an open-house-style public scoping meeting was held at Riverview Middle School, 205 Pacifica Avenue, Bay Point, California 94565 from 6:00 pm to 8:00 pm.

The proposed action is to construct and operate a standard design ACP for ammunition vehicle inspection at MOTCO. An ACP is the entry/exit point at the perimeter of an installation, defines the ingress/egress point through an installation's perimeter security system, and is broadly recognized as the first and best place to defend against a perceived threat. An ACP provides a location to check the identification of visitors, process visitors, and to register and provide inspection of vehicles attempting to enter an installation. The main purpose of an ACP is to secure the installation from unauthorized access, provide a first defense against terrorist threats, and to intercept contraband while maximizing vehicular traffic flow.

The purpose of the proposed action is to address current ACP facility deficiencies and modernize an ACP so that the Army can maintain its ability to meet mission requirements in support of normal and contingency operations. The proposed action is necessary in order to provide adequate access control, and act as the primary truck inspection station for MOTCO under the current Army design and safety standards. Without the proposed action, the Army's ability to perform munitions operations would be impacted.

A range of reasonable alternatives will be developed and analyzed in the EA. Alternatives to be considered include 1) construction and operation of a new ACP near existing ACP #5, 2) utilization, modernization, and expansion of another ACP at MOTCO, and 3) no new construction and no renovation of an existing ACP (No Action Alternative). Other reasonable alternatives raised during the scoping process that are capable of meeting the project purpose, need, and criteria will be considered for evaluation in the EA.

In preparing the EA, the Army will analyze a broad range of resources and issues, including those raised during scoping. Anticipated issues associated with the proposed action may include, but are not limited to, noise, air quality, traffic, socioeconomics, and environmental justice.

The Army respectfully requests that your agency provide input regarding unique or environmentally sensitive areas that you believe may be affected by construction and operation of a new ACP at MOTCO. Your prompt attention to this request is greatly appreciated. You can submit your comments via email to guy.k.romine.civ@mail.mil, or by mail to:

Mr. Guy Romine
Environmental Manager
Public Works, Environmental Division
Military Ocean Terminal Concord
410 Norman Avenue
Concord, CA 94520

If you have any questions, or need further information, please contact Mr. Guy Romine, at (925) 246-4024.

Sincerely,

Guy Romine
Environmental Manager
Military Ocean Terminal Concord

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

July 25, 2016

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Ms. Polanco:

Subject: ENVIRONMENTAL ASSESSMENT (EA) FOR THE CONSTRUCTION AND OPERATION OF A NEW ACCESS CONTROL POINT (ACP), MILITARY OCEAN TERMINAL CONCORD (MOTCO), CALIFORNIA

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Mr. Guy Romine
Environmental Manager
Public Works, Environmental Division
Military Ocean Terminal Concord
410 Norman Avenue
Concord, CA 94520

If you have any questions, or need further information, please contact Mr. Guy Romine, at (925) 246-4024.

Sincerely,

Guy Romine
Environmental Manager
Military Ocean Terminal Concord

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

July 25, 2016

Mr. Charlie Wright
Chairperson
Cortina Band of Indians
P.O. Box 1630
Williams, CA 95987

Dear Mr. Wright:

Subject: ENVIRONMENTAL ASSESSMENT (EA) FOR THE CONSTRUCTION AND OPERATION OF A NEW ACCESS CONTROL POINT (ACP), MILITARY OCEAN TERMINAL CONCORD (MOTCO), CALIFORNIA

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Mr. Guy Romine
Environmental Manager
Public Works, Environmental Division
Military Ocean Terminal Concord
410 Norman Avenue
Concord, CA 94520

If you have any questions, or need further information, please contact Mr. Guy Romine, at (925) 246-4024.

Sincerely,

Guy Romine
Environmental Manager
Military Ocean Terminal Concord

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

July 25, 2016

Ms. Crystal Martinez
Chairperson
Ione Band of Miwok Indians
P.O. Box 699
Plymouth, CA 95669

Dear Ms. Martinez :

Subject: ENVIRONMENTAL ASSESSMENT (EA) FOR THE CONSTRUCTION AND OPERATION OF A NEW ACCESS CONTROL POINT (ACP), MILITARY OCEAN TERMINAL CONCORD (MOTCO), CALIFORNIA

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Public Works, Environmental Division
Military Ocean Terminal Concord
410 Norman Avenue
Concord, CA 94520

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Sincerely,

Guy Romine
Environmental Manager
Military Ocean Terminal Concord

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

July 25, 2016

Kim S. Turner
Assistant Field Supervisor
San Francisco Bay-Delta Fish & Wildlife Office
650 Capitol Mall, Suite 8-300
Sacramento, CA 95814

Dear Ms. Turner:

Subject: ENVIRONMENTAL ASSESSMENT (EA) FOR THE CONSTRUCTION AND OPERATION OF A NEW ACCESS CONTROL POINT (ACP), MILITARY OCEAN TERMINAL CONCORD (MOTCO), CALIFORNIA

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Environmental Manager
Public Works, Environmental Division
Military Ocean Terminal Concord
410 Norman Avenue
Concord, CA 94520

If you have any questions, or need further information, please contact Mr. Guy Romine, at (925) 246-4024.

Sincerely,

Guy Romine
Environmental Manager
Military Ocean Terminal Concord

DEPARTMENT OF THE ARMY
Military Surface Deployment and Distribution Command
834Th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

REPLY TO
ATTENTION OF

December 7, 2016

Jennifer Norris
Field Supervisor
United States Fish and Wildlife Service
Sacramento Fish and Wildlife
2800 Cottage Way, Room W-2605
Sacramento, California 95825

Dear Ms. Norris:

This letter is in response to your request that the Department of the Army (Army) conclude consultation on the proposed construction of Access Control Point # 5 at Military Ocean Terminal Concord (MOTCO) in Contra Costa County, California.

Site assessments and monitoring efforts were conducted by the U.S. Fish and Wildlife Service to evaluate the presence of the federally-listed California red-legged frog, California tiger salamander, and their habitat within the Tidal Area of MOTCO. Summary reports were provided on these monitoring efforts which did not detect the presence of these species in the Tidal Area of MOTCO during either the 2013-2014 or 2015-2016 sampling periods. As a result, these surveys in conjunction with past surveys, indicate a negative finding for both the California red-legged frog and the California tiger salamander.

In conclusion, the Army requests concurrence with their previous determination of "may affect, not likely to adversely affect", the threatened California red-legged frog and California tiger salamander, due to the very low potential for occurrence, coupled with the implementation of avoidance and minimization measures that would be incorporated in the project.

If you have questions or need additional information, please contact Mr. Guy Romine at (971) 645-3645 or email: guy.k.romine.civ@mail.mil

Sincerely,

James R Wiley
LTC, LG
Commanding

cc:
Kimberly Garber, Surface Deployment and Distribution Command, North Charleston, South Carolina
Pamela Whitman, U.S. Army Materiel Command, Redstone Arsenal, Alabama
Paul Scolari, Chief of Cultural Resources, National Park Service
Tom Leatherman, General Superintendent, National Park Service

Bay Point Municipal Advisory Council
www.baypointmac.org

Vicki Zumwalt, 2016 Chair

Federal Glover, District Supervisor, District V

The Bay Point Municipal Advisory Committee serves as an advisory body to the Contra Costa County Board of Supervisors and the County Planning Agency.

MAC AGENDA

Tuesday September 6, 2016
7:00 PM to 9:00 PM-Bay Point MAC Meeting
Ambrose Recreation and Park District Auditorium
3105 Willow Pass Road, Bay Point, CA 94565
Charles Tremain-Vice Chair presiding

Time is allotted under Public Comment for those persons who wish to speak for up to three minutes on any item NOT on the agenda. Persons who wish to speak on matters on the agenda will be heard for up to three minutes when the Chair calls for comments. After persons have spoken on an agendized item, the hearing can be closed by the Chair and the matter is subject to discussion and action by the MAC. Persons wishing to speak are requested to fill out a speaker card.

INTRODUCTION of new Recording Secretary by Ed Diokno: Kaycey Carterelliott

1. **Call to Order/Board Volunteer to take minutes//Roll Call/Pledge of Allegiance**

2. **Approval of Agenda**

3. **Consent Items**

All matters listed under Consent Items are considered by the MAC to be routine and will be enacted by one motion. There will be no separate discussion of these items unless requested by a member of the MAC or a member of the public prior to the time the MAC votes on the motion to adopt.

a. Note: No formal Record of Action of August 2, 2016 meeting as it was National Night Out event and members attended in support of this event.
b. Approval of September 2016 recording secretary invoice-$120.00

4. <u>Public Comment (3 Minutes/speaker) for any topic NOT on the agenda</u>

5. <u>Agency Reports</u>

a. California State Highway Patrol
b. Contra Costa County Sheriff's Office
c. Supervisor Federal Glover General Report – Ed Diokno
d. Code Enforcement – Joe Losado

6. <u>Presentations</u>

a. Citizen of the Month award – Hudson
b. Construction and Operation of a New Access Control Point at Military Ocean Terminal Concord, CA-LTC James Wiley and Guy Romine

7. <u>Items for Discussion and/or Action</u>

8. Committee/Member Reports

a. Report on National Night Out– Eva Garcia
b. Ambrose Park and Recreation – Hudson
c. Code Enforcement–Tremaine
d. Adopt a Road – Stevenson
e. Schools – Mason
f. Treasurer – Mason
g. Correspondence, CAP - Lupe Garcia

9. <u>Future Agenda Items</u>

10. <u>Adjourn to the October 4, 2016 meeting</u>

The Bay Point Municipal Advisory Committee will provide reasonable accommodations for persons with disabilities planning to attend the meeting who contact Supervisor Federal Glovers office at least 72 hours before the meeting, at (925) 427-8138.

Materials distributed for the meeting are available for viewing at:

- Supervisor Glovers office, 315 East Leland Road, Pittsburg, CA
- Bay Point Library, Riverview Intermediate School, Pacifica Ave., Bay Point, CA
- Ambrose Recreation and Park District Office, 3105 Willow Pass Road, Bay Point, CA
- District V Website-Bay Point MAC-http://www.co.contra-costa.ca.us/depart/dis5/

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BAY POINT MUNICIPAL ADVISORY COUNCIL PRESENTATION ON ACCESS CONTROL POINT #5 AT MILITARY OCEAN TERMINAL CONCORD

MEETING MINUTES

Meeting Date:
09/06/2016

Meeting Location:
Ambrose Recreation and Park District Auditorium

Recorded By:
Rena Escobedo

Presented by:
Guy Romine

1 ATTENDANCE

Name	Title	Total Number
Sterling Stevenson	MAC Board	
Debra Mason	MAC Board	
Vicki Zumwalt	MAC Chair	
Trina Hudson	MAC Board	
Charles Tremaine	MAC Board	
Eva Garcia	MAC Board	
Catherine Carter Elliot	Recording Secretary	
Ed Diokno	Recording Secretary	
Contra Costa Sheriffs	Sheriffs	4
Michael McRae on behalf of Congressman Mark DeSaulnier	Congressman 11th District CA	
Public Community Members		~18
LTC James (Jimmy) Wiley	LTC MOTCO	
Guy Romine	Environmental Manager MOTCO	
Steven Volk	Environmental Compliance MOTCO	
Rena Escobedo	Environmental Manager USACE	

2 MEETING LOCATION

Building: Ambrose Recreation and Park District 1900-2100

3 AGENDA

- **Pre-MOTCO noteworthy meeting items**
  - LTC Jimmy Wiley lead group in Pledge of Allegiance
  - PGE to truck in compost and plants for wastewater pond cleanup
    - 8-10 truckloads/day
    - 60 truckloads total
- **MOTCO ACP #5**
  - MAC Board Introduction of LTC Wiley
  - LTC Introduced Guy Romine, Steven Volk, Rena Escobedo
  - Verbal Presentation on Handout by Guy Romine
  - Purpose of Presentation:
    - Describe project for ACP #5
    - Proposing to reopen the Gate at ACP #5 that was opened in the NAVY era
    - Discuss schedule
    - Answer Questions
  - Points Discussed:
    - Current gate is from 1940s era
    - Gate must be past the explosion safety arc (~1.9 miles from pier)
    - 95% munitions pass by rail
    - MOTCO has strategic placement on the west coast
    - No longer receives fused munitions
    - Example of an average mission and extent of missions

- **MAC Board Questions/Comments**
  - Questions answered primarily by Guy Romine with additional assistance of LTC Wiley
    1. *What is the special ammunition being transported? Is it nuclear?*
       i. Wiley – Anywhere from missiles to other basic ammunition
       ii. Wiley – Nuclear is not shipped through MOTCO currently
    2. *Gate is moving closer to Bay Point?*
       i. Guy – The gate will be moved further into the MOTCO installation
       ii. Guy – Currently there is no MOTCO truck traffic going through Bay Point. The proposed project will add truck traffic through Bay Point
    3. *Will trucks be stacked/queued in Bay Point? Nichols Rd?*
       i. Guy – Trucks will be queued on the Port Chicago Hwy and not in Bay Point
       ii. Gate is ~0.25 miles from Nichols
       iii. Need to determine how far the home owner on Nichols Road is from Gate 5.
    4. *Will MOTCO open up Port Chicago Highway for the community?*
       i. Wiley – Cannot open the road due to the development of Holding Pad for ammunition connex's along PCH
    5. *Is there the ability to move the road to avoid going through community?*
       i. Guy – Don't own the real estate around the road. Gate #4 is problematic for this reason because the road would have environmental issues to repair/widen in the future. Not enough stable real estate to handle the road, would have to build over wetlands.
    6. *Neighborhood children seeing trucks passing through the neighborhood. Other companies have agreed to truck through non-school hours. Will MOTCO consider this?*
       i. Wiley – MOTCO can look into hours and discussion with trucking companies. Trucking companies are independent contractors and MOTCO can give reviews if not compliant. There are eight trucking companies that are vetted to handle this work.
    7. *Will ACP #5 be manned 24/7? Can/Will the trucks come between 0000-0800?*
       i. Wiley – MOTCO can work with the trucking companies to have restrictions on delivery times.
       ii. Guy – Yes the gate will be manned 24/7.
    8. *Can roadways hold the additional traffic? Will MOTCO provide mitigation funds to County roads from the increase of traffic?*
       i. Guy – Have yet to look at that in the analysis. May have traffic safety issues.
       ii. Wiley – MOTCO doesn't patrol the area near ACP #5 currently because it's currently closed.
    9. *If County would close traffic to large trucks, what would MOTCO do?*
       i. Wiley – We would be forced to look at other options
    10. *What is the timeline on this?*
       i. Guy – Referred to back slide of handout to show anticipated schedule

  - Comments:
    11. Navy bought out houses in community and said they were too close to danger area and now MOTCO wants to add this project in the area.
    12. Commercial trucks are being added to the community that weren't there before. If there is one accident, it doesn't matter how little missions in a year.
       i. Wiley – Explained the trucks safety measures that are taken based on a lesson learned accident from the 1990s. Understands the concerns on truck route through Bay Point.
    13. The gate is further on MOTCO property but as a community the fence line along MOTCO is the hardest to enforce with dumping and RV parking.

i. MOTCO needs to be more stewards and share camera feeds with local Sheriff's office.
    1. Wiley – agreed to have communications with Sheriff's
ii. Would like MOTCO to increase communication to keep place clean and increase cameras along problem areas. Increase cameras on Driftwood, Nichols, and Port Chicago Highway.
iii. When people dump along MOTCO area it invites others to do the same and MOTCO needs to increase response to dumping.
iv. Work on collaboration to eliminate the no man's land and increase communication between MOTCO and the community. Invite MOTCO to future community cleanups.

14. In support because it will increase security and it's a good idea. Likes having someone permanently at ACP #5.
15. Sheriff – Shares same concerns as board. As well as…
    i. Additional concern is the 70-80 stevedores that load ships are additional vehicles on the roads.
    ii. Many children walk to school in Bay Point and Sheriff isn't 100% support unless trucks have restricted hours outside of school areas/times. Trucks cross three unmanned school crossing zones.
        1. Is it possible to get school crossing guards at these locations funded by federal dollars permanently?
    iii. Is unclear how crime will decrease if MOTCO doesn't leave boundary to enforce. Increase security from Driftwood to ACP #5 and decrease crime and dumping.
    iv. Full support to a certain degree if there can be collaboration with the school crossing zones and times.

- **Bay Point Community Questions/Comments**
  - <u>Questions</u> answered primarily by Guy Romine with additional assistance of LTC Wiley

1. *Where does Homeland Security come into this? Safety issues? People coming into area knowing about the large ammunition? Safety concerns.*
    v. Wiley – MOTCO works with all branches of the government. There are currently no known threats. MOTCO would alert authorities if one were to occur (FBI, sheriffs, etc.)
2. *What is MOTCO doing with the comments and questions heard tonight?*
    i. Guy – LTC Wiley will take information back to MOTCO and note takers are taking comments for the environmental assessment.
    ii. Wiley – Comment forms also available for written comments

  - <u>Comments:</u>

3. Community member wants ACP #5 near Nichols Rd to reduce crime in the area
    i. MOTCO receives consistent communication from Nichols community because of crime in area
    ii. Gate is ~0.25 miles from Nichols
4. Biking Advocate - Bruce Ohlson
    i. Current proposal of 5-10 trucks per mission plus other vehicles. What about the unpredictable future if there is a large need due to another war and the truck traffic increases? Concern of trucks killing Bay Point citizens.
    ii. Wants MOTCO to build shoulders, bike lanes, and sidewalks from highway 4 to front gate. The Port Chicago Highway was a major flat bike route and was closed 02/11/95 at 10am.
    iii. East Bay Regional Park District wants to put bike paths along canal on MOTCO property but MOTCO has denied. Wants paths to be built on canal.

4 SUMMARY OF CONCERNS

Concerns	Brought Forward By
Security along the Driftwood, Nichols, and Port Chicago Hwy	MAC Board Member – Charles Tremaine Contra Costa County Sheriff's
Trucks during school hours	MAC Board Chair – Vicki Zumwalt Contra Costa County Sheriff's
Trucks in community	MAC Board Member – Debra Mason Contra Costa County Sheriff's
Threats of Safety Concerns and Munition passing through Community	Community Member
Bike paths needed	Bike advocate Bruce Ohlson
Dumping along Port Chicago Hwy and Nichols Rd	MAC Board Member – Charles Tremaine
Street Racing and Motorcycle racing along Port Chicago Hwy and Nichols Rd.	MAC Board Member – Charles Tremaine Contra Costa County Sheriff's

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2017-I-0811

JAN 1 7 2017

James R. Wiley
LTC, LG
Commanding
834th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

Subject: Informal Consultation on the Proposed Access Control Point #5 at Military Ocean Terminal Concord, Contra Costa County, California

Dear Mr. Wiley:

This letter is in response to the Department of the Army's (Army), May 15, 2015, request to initiate informal consultation and December 7, 2016, request to conclude consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Access Control Point #5 (proposed project) at Military Ocean Terminal Concord (MOTCO), in Contra Costa County, California. Your requests were received by the Service on May 28, 2015, and December 12, 2016, respectfully. The findings presented in your requests conclude that the proposed project may affect, but is not likely to adversely affect the federally-listed as threatened Central Valley population of the California tiger salamander (*Ambystoma californiense*) (California tiger salamander) and the California red-legged frog (*Rana draytonii*). The Service could not concur with your May 15, 2015, determination until another year of protocol surveys were completed at MOTCO for the California tiger salamander and the California red-legged frog. The Service completed the additional year of surveys at MOTCO during the 2015-2016 sampling period and there were no detections of either species. After the completion of surveys, the Army sent the December 7, 2016, request to conclude consultation for the proposed project. Your original initiation request, the 2015-2016 survey effort, and your request to conclude informal consultation presents an evaluation of the proposed project's effects on species federally-listed under the Endangered Species Act of 1973, as amended (16 U.S.C. §1531 *et seq.*) (Act).

The findings and recommendations in this consultation are based on: (1) your December 7, 2016, request to conclude informal consultation; (2) the October 2016, *Monitoring Effort to Detect the Presence of the Federally-listed California Tiger Salamander and California Red-Legged Frog at the Military Ocean Terminal Concord, California*, prepared by the Service (Service 2016); (3) the Service's June 1, 2015, email to the Army stating we do not concur with a not likely to adversely affect determination for the proposed project; (4) your May 15, 2015, letter initiating consultation and the included project information; (5) the July 22, 2014, site visit with personnel from the Service and the Army Corps of Engineers (Corps); and (6) other information available to the Service.

Project Description

Construction of the proposed project is required to provide adequate access control and to inspect trucks loaded with ammunition and other cargo entering MOTCO. The sensitive nature of the cargo deployed and redeployed through MOTCO makes security a high priority. The current Gate 5 does not meet Army security requirements and the facilities at this location are extremely limited. Ammunition laden trucks are currently inspected at the Gate 2 entrance which requires vehicles to drive into the installation for nearly a mile. There are no formal inspection facilities at this location and inspections must take place in the open, including during inclement weather. During loading and unloading operations, there are traffic backups as this gate controls all other traffic and deliveries. Suspect vehicles are moved even further into the installation to barricaded sidings until they can be re-inspected and cleared. Access Control Point (ACP) #5 is designed to become the primary truck inspection station for MOTCO and will meet all current Army requirements.

The total project footprint of the gate design is about 8.6 acres, which includes 3.9 acres of pavement. The proposed project includes the construction of a gate house, a search area office, an over-watch booth, guard booths, truck inspection canopies, parking areas, road infrastructure, facility lighting, traffic control signals, passive and active vehicle barriers with comprehensive control systems, building information systems, anti-terrorism and force protection measures, and the installation of an Intrusion Detection System and Energy Monitoring Control System connections. Supporting facilities include site development/improvements, utilities and connections, lighting, paving, parking, walkways, curbs, gutters, storm drainage, information systems, landscaping, and signage. Heating and air conditioning will be provided by a self-contained system. Facilities will be designed to a minimum life of 50 years, in accordance with the Department of Defense's Unified Facilities Code (UFC 1-200-02) including energy efficiencies, building envelope, and integrated building systems performance. Access for individuals with disabilities will be provided. The design location of the constructed facilities will allow the orderly circulation of trucks queuing, both for rejected vehicles and vehicles that are approved to enter. Construction is expected to take 18 months to complete.

Avoidance and Minimization Measures

The following avoidance and minimization measures will be implemented:

1. A Service-approved biologist will be present during initial ground disturbance, excavating, leveling, and site preparation activities to monitor for the presence of listed species. If a California tiger salamander or a California red-legged frog is found within the project site, work will stop and the Service will be contacted immediately.

2. A Service-approved biologist will conduct a pre-project briefing to all personnel involved with project activities. This briefing will include information on the identification and life history of the California tiger salamander and the California red-legged frog, the status of both species as it relates to the Act, and any measures being implemented to protect both species.

The proposed project site is located on the northern side of Port Chicago Highway (see Enclosure, Figures 1 and 2) and is composed of a previously disturbed, but undeveloped, grassland. The grassland is dominated by non-native grass species and is currently being managed via cattle grazing.

The grassland habitat within the project site contains small mammal burrows and soil cracks, and is suitable upland habitat for both species. In addition, the project site is adjacent to the intermittent Nichols Creek, which could potentially serve as breeding and dispersal habitat for both species. The nearest known populations of both species are located on the other side of State Highway 4, which is a significant barrier to dispersal with eight traffic lanes. The most recent surveys to detect the presence of either species at MOTCO were completed during the 2013-2014 and 2015-2016 survey periods by Service staff (Service 2016). Neither of those surveys detected the presence of either species.

The Service concurs with your determination that the proposed project may affect, but is not likely to adversely affect the California tiger salamander. The proposed project reached the 'may affect' level due to the fact that there is suitable upland habitat within the proposed project site and there are known occurrences of the species about 3 miles from the project site (CNDDB 2017). However, due to the lack of detections during the most recent surveys completed by the Service and past surveys, and the implementation of avoidance and minimization measures, the Service believes that any potential adverse effects to the California tiger salamander from construction of the proposed project will be discountable.

The Service also concurs with your determination that the proposed project may affect, but is not likely to adversely affect the California red-legged frog. The proposed project reached the 'may affect' level due to the fact that there is suitable upland habitat within the proposed project site and there are known occurrences of the species a little over 2 miles from the project site (CNDDB 2017). However, due to the lack of detections during the most recent surveys completed by the Service and other past surveys, and the implementation of avoidance and minimization measures, the Service believes that any potential adverse effects to the California tiger salamander from construction of the proposed project will be discountable.

Therefore, unless new information reveals effects of the proposed project that may affect listed species in a manner or to an extent not considered, or a new species or critical habitat is designated that may be affected by the proposed project, no further action pursuant to the Act is necessary.

If you have any questions regarding the proposed Access Control Point #5 at Military Ocean Terminal Concord, please contact Amber Aguilera (amber_aguilera@fws.gov), Fish and Wildlife Biologist, at (916) 414-6577, or myself at (916) 414-6563.

Sincerely,

Doug Weinrich

Doug Weinrich
Assistant Field Supervisor

Enclosure

LITERATURE CITED

California Natural Diversity Data Base (CNDDB). 2017. California Department of Fish and Wildlife. RAREFIND. Natural Heritage Division, Sacramento, California. Accessed January 13, 2017.

U.S. Fish and Wildlife Service (Service). 2016. Monitoring Effort to Detect the Presence of the Federally-listed California Tiger Salamander and California Red-Legged Frog at the Military Ocean Terminal Concord, California. U.S. Fish and Wildlife Service. October 2016.

Enclosure

Figures 1 and 2
(Figures provided by the Army)

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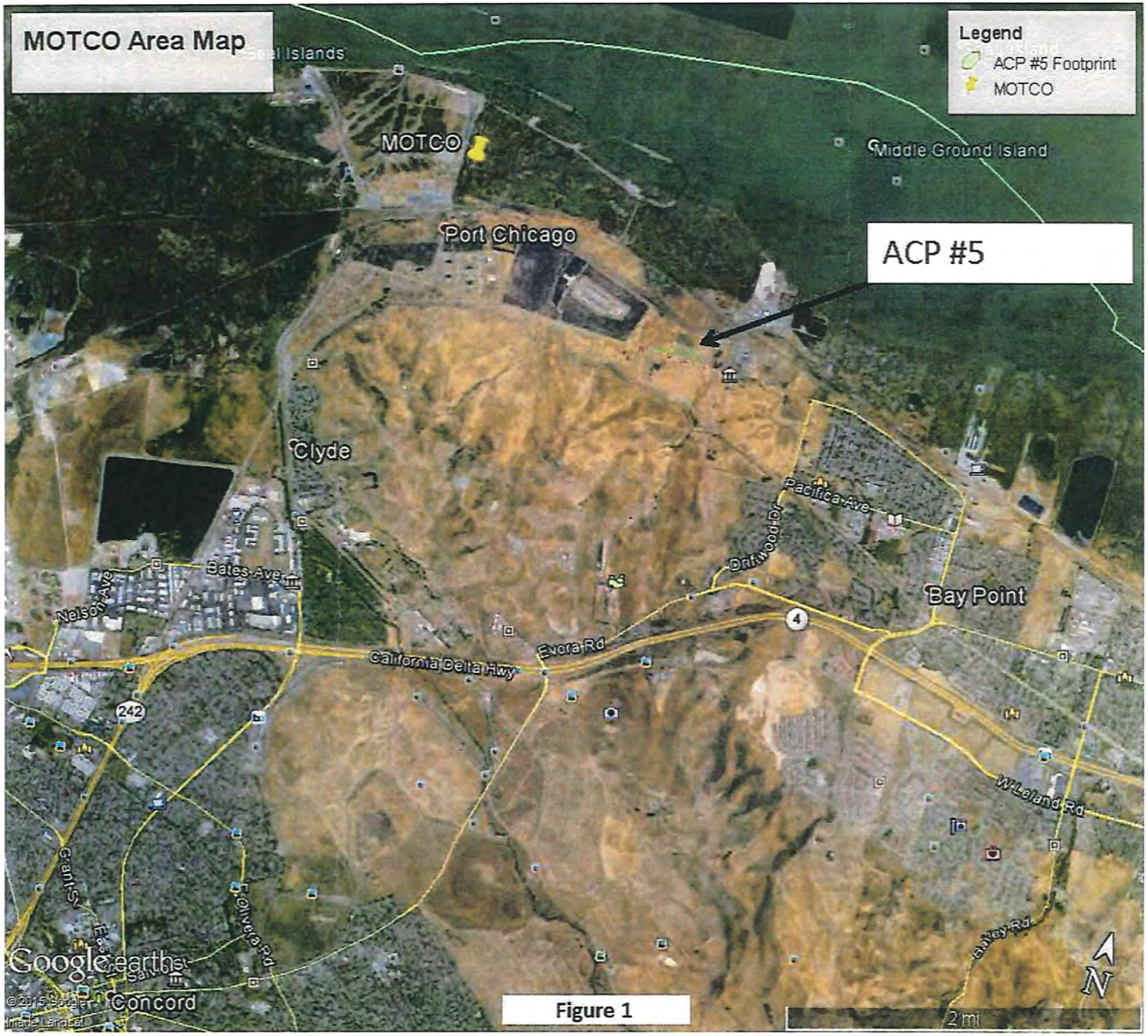

MOTCO Area Map
Legend
ACP #5 Footprint
MOTCO
Seal Islands
MOTCO
Middle Ground Island
Port Chicago
ACP #5
Clyde
Pacifica Ave
Driftwood Dr
Bay Point
Bates Ave
Nelson Ave
California Delta Hwy
Evora Rd
4
242
W Leland Rd
Grant St
Olivera Rd
Bailey Rd
Concord
2 mi
N

Figure 1

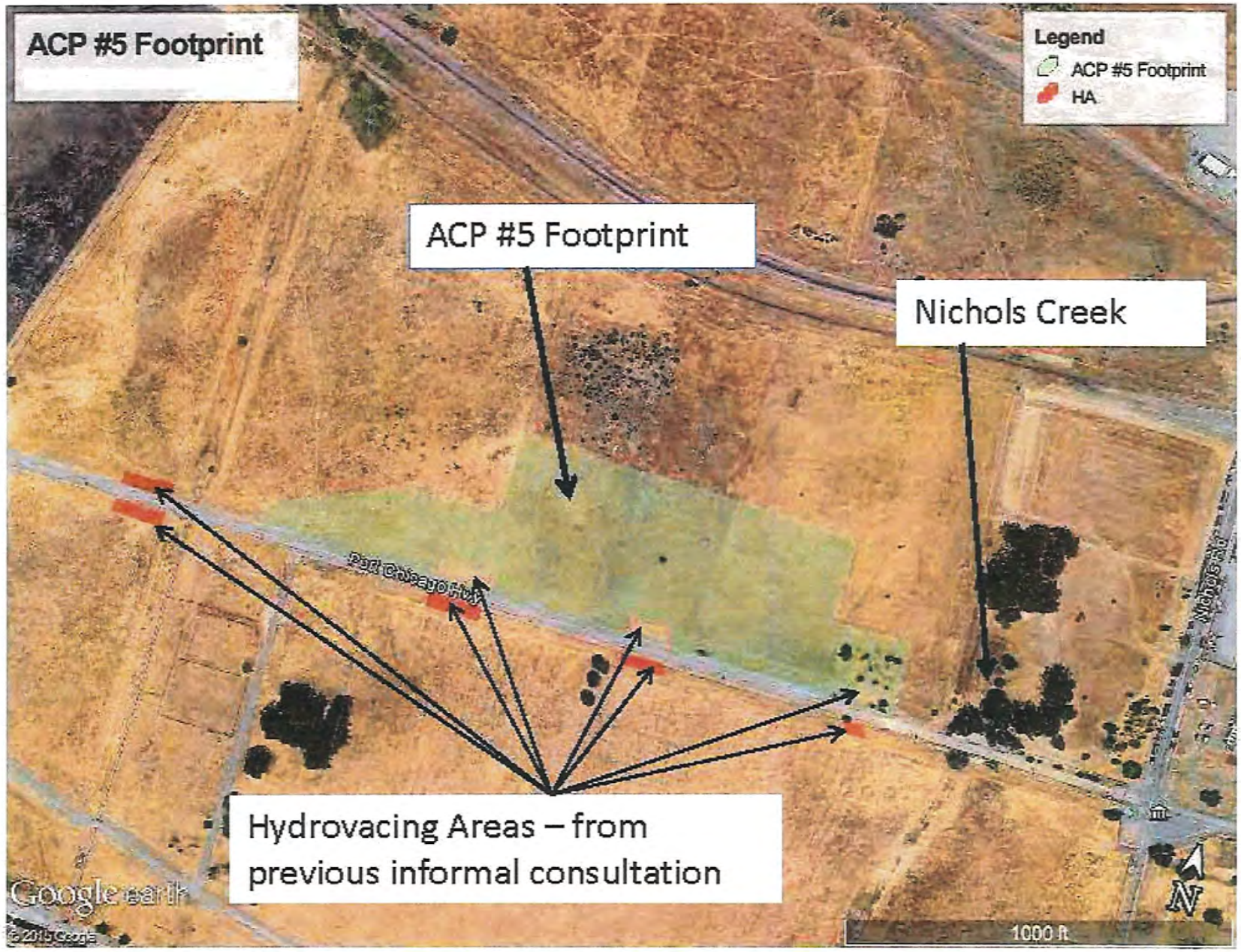

ACP #5 Footprint
Legend
ACP #5 Footprint
HA
ACP #5 Footprint
Nichols Creek
Hydrovacing Areas – from previous informal consultation
Google earth
1000 ft
N

Figure 2

APPENDIX B

IPaC REPORT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
FEDERAL BUILDING, 2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
PHONE: (916)414-6600 FAX: (916)414-6713

Consultation Code: 08ESMF00-2016-SLI-2185 September 08, 2016
Event Code: 08ESMF00-2016-E-04898
Project Name: MOTCO Proposed New ACP

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2)

of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: MOTCO Proposed New ACP

Official Species List

Provided by:

Sacramento Fish and Wildlife Office
FEDERAL BUILDING
2800 COTTAGE WAY, ROOM W-2605
SACRAMENTO, CA 95825
(916) 414-6600

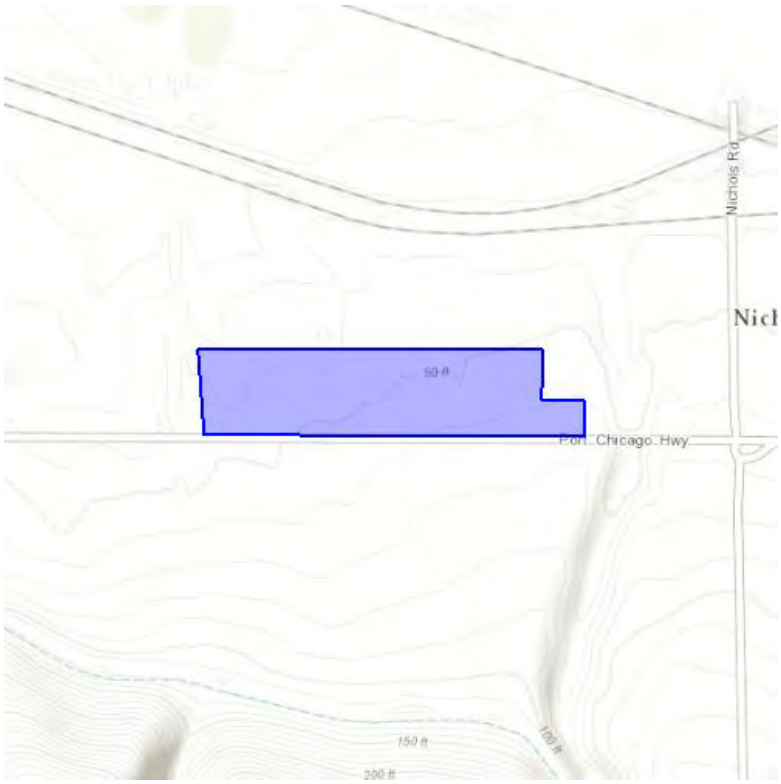
Consultation Code: 08ESMF00-2016-SLI-2185
Event Code: 08ESMF00-2016-E-04898

Project Type: MILITARY OPERATIONS / MANEUVERS

Project Name: MOTCO Proposed New ACP
Project Description: The Preferred Alternative is to construct and operate a new ACP near the existing ACP #5 (located at the intersection of Port Chicago Highway [PCH] and Nichols Road) location on the north side of the PCH. The footprint of the new ACP would encompass approximately 8.6 acres, with an additional 3.9 acres of pavement. Construction would occur in 2017.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-121.99658632278442 38.041340092275405, -121.99044942855836 38.04132319293323, -121.99044942855836 38.04176257456188, -121.99114680290222 38.04177102418276, -121.99112534523009 38.04241319251569, -121.99668288230895 38.04242164206148, -121.99658632278442 38.041340092275405)))

Project Counties: Contra Costa, CA

Endangered Species Act Species List

There are a total of 16 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	**Status**	**Has Critical Habitat**	**Condition(s)**
California red-legged frog *(Rana draytonii)* Population: Entire	Threatened	Final designated	
California tiger Salamander *(Ambystoma californiense)* Population: U.S.A. (Central CA DPS)	Threatened	Final designated	
Birds			
California Clapper rail *(Rallus longirostris obsoletus)* Population: Entire	Endangered		
California Least tern *(Sterna antillarum browni)*	Endangered		
Crustaceans			
Vernal Pool fairy shrimp *(Branchinecta lynchi)* Population: Entire	Threatened	Final designated	
Vernal Pool tadpole shrimp *(Lepidurus packardi)*	Endangered	Final designated	

Population: Entire			
Fishes			
Delta smelt *(Hypomesus transpacificus)* Population: Entire	Threatened	Final designated	
steelhead *(Oncorhynchus (=salmo) mykiss)* Population: Northern California DPS	Threatened		
Flowering Plants			
Antioch Dunes evening-primrose *(Oenothera deltoides ssp. howellii)*	Endangered	Final designated	
Soft bird's-beak *(Cordylanthus mollis ssp. mollis)*	Endangered	Final designated	
Insects			
Delta Green Ground beetle *(Elaphrus viridis)* Population: Entire	Threatened	Final designated	
San Bruno Elfin butterfly *(Callophrys mossii bayensis)* Population: Entire	Endangered		
Valley Elderberry Longhorn beetle *(Desmocerus californicus dimorphus)* Population: Entire	Threatened	Final designated	
Mammals			
Salt Marsh Harvest mouse *(Reithrodontomys raviventris)* Population: wherever found	Endangered		

Reptiles			
Alameda whipsnake *(Masticophis lateralis euryxanthus)* Population: Entire	Threatened	Final designated	
Giant Garter snake *(Thamnophis gigas)* Population: Entire	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

State of California
The Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Biogeographic Data Branch
California Natural Diversity Database (CNDDB)

STATE AND FEDERALLY LISTED ENDANGERED, THREATENED, AND RARE PLANTS OF CALIFORNIA

Last updated April 2016

This document contains a list of California plant taxa that have been officially classified as Endangered, Threatened or Rare by the California Fish and Game Commission (state listed) and/or classified as Endangered or Threatened by the U.S. Fish and Wildlife Service (federally listed). This document also includes California plant taxa that are official Candidates for listing, have been officially Proposed for listing, as well as plant taxa that were once listed but have since been delisted.

State listing is pursuant to §1904 (Native Plant Protection Act of 1977) and §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals. Federal listing is pursuant with the Federal Endangered Species Act of 1973, as amended.

For additional information on this list, contact CNDDB's Information Services at (916) 324-3812.

Designations and Subtotals for each Designation:

Designations:		Subtotals:
SE	State listed endangered	132
ST	State listed threatened	22
SR	State listed rare	64
SC	State candidate for listing	1
FE	Federally listed endangered	135
FT	Federally listed threatened	52
FC	Federal candidate for listing	3
FPE	Federally proposed endangered	0
FPT	Federally proposed threatened	0

Number of California plant taxa state listed (rare, threatened, or endangered)	218
Number of California plant taxa federally listed (threatened or endangered)	187
Number of California plant taxa both state and federally listed	122
Number of California plant taxa state or federally listed	283

Note: Counts above were generated from RareFind. CNDDB does not track *Pinus albicaulis* or *Carex albida* so these species were not included in the designation counts above.

State and Federally Listed Endangered, Threatened, and Rare Plants of California
Last updated April 2016

Taxon[a]	State Status	State List Date[b]	Federal Status	Federal List Date[b]	CDFW Notes
Abronia alpina (Ramshaw Meadows abronia)					FC on 20040504; removed from FC list on 20151008.
Acanthomintha duttonii (San Mateo thorn-mint)	SE	197907XX	FE	19850918	Scientific name at time of listing: *Acanthomintha obovata* ssp. *duttonii*
Acanthomintha ilicifolia (San Diego thorn-mint)	SE	198201XX	FT	19981013	
Acanthoscyphus parishii var. *goodmaniana* (Cushenbury oxytheca)			FE	19940824	Scientific name at time of listing: *Oxytheca parishii* var. *goodmaniana*
Acmispon argophyllus var. *adsurgens* (San Clemente Island bird's-foot trefoil)	SE	197911XX			Scientific name at time of listing: *Lotus argophyllus* var. *adsurgens*
Acmispon argophyllus var. *niveus* (Santa Cruz Island bird's-foot trefoil)	SE	198108XX			Scientific name at time of listing: *Lotus argophyllus* var. *niveus*
Acmispon dendroideus var. *traskiae* (San Clemente Island lotus)	SE	198204XX	FT	20130726	Scientific name at time of listing: *Lotus dendroideus* var. *traskiae*
Agrostis blasdalei var. *marinensis* (Blasdale's bent grass)	Delisted	200804XX			Current taxonomic treatment no longer recognizes varieties within *A. blasdalei*
Allium munzii (Munz's onion)	ST	199001XX	FE	19981013	
Allium yosemitense (Yosemite onion)	SR	198207XX			
Alopecurus aequalis var. *sonomensis* (Sonoma alopecurus)			FE	19971022	
Ambrosia pumila (San Diego ambrosia)			FE	20020702	
Amsinckia grandiflora (large-flowered fiddleneck)	SE	198204XX	FE	19850508	
Arabis mcdonaldiana (Mcdonald's rockcress)	SE	197907XX	FE	19781029	
Arctostaphylos bakeri ssp. *bakeri* (Baker's manzanita)	SR	197909XX			The Fish and Game Commission listed the entire species, *Arctostaphylos bakeri*
Arctostaphylos bakeri ssp. *sublaevis* (The Cedars manzanita)	SR	197909XX			The Fish and Game Commission listed the entire species, *Arctostaphylos bakeri*
Arctostaphylos confertiflora (Santa Rosa Island manzanita)			FE	19970731	
Arctostaphylos densiflora (Vine Hill manzanita)	SE	198108XX			
Arctostaphylos edmundsii var. *parvifolia* (Little Sur manzanita)	Delisted	200804XX			Current taxonomic treatment no longer recognizes varieties within *A. edmundsii*
Arctostaphylos franciscana (Franciscan manzanita)			FE	20121005	
Arctostaphylos glandulosa ssp. *crassifolia* (Del Mar manzanita)			FE	19961007	
Arctostaphylos hookeri ssp. *hearstiorum* (Hearsts' manzanita)	SE	197909XX			
Arctostaphylos imbricata (San Bruno Mountain manzanita)	SE	197909XX			
Arctostaphylos montana ssp. *ravenii* (Presidio manzanita)	SE	197811XX	FE	19791026	Scientific name at time of listing: *Arctostaphylos hookeri* var. *ravenii*
Arctostaphylos morroensis (Morro manzanita)			FT	19941215	
Arctostaphylos myrtifolia (Ione manzanita)			FT	19990526	
Arctostaphylos pacifica (Pacific manzanita)	SE	197909XX			
Arctostaphylos pallida (pallid manzanita)	SE	197911XX	FT	19980422	
Arenaria paludicola (marsh sandwort)	SE	199002XX	FE	19930803	
Astragalus agnicidus (Humboldt milk-vetch)	SE	198204XX			
Astragalus albens (Cushenbury milk-vetch)			FE	19940824	
Astragalus brauntonii (Braunton's milk-vetch)			FE	19970129	
Astragalus claranus (Clara Hunt's milk-vetch)	ST	199001XX	FE	19971022	Scientific name at time of listing: *Astragalus clarianus*
Astragalus jaegerianus (Lane Mountain milk-vetch)			FE	19981006	
Astragalus johannis-howellii (Long Valley milk-vetch)	SR	198207XX			
Astragalus lentiginosus var. *coachellae* (Coachella Valley milk-vetch)			FE	19981006	
Astragalus lentiginosus var. *piscinensis* (Fish Slough milk-vetch)			FT	19981006	
Astragalus lentiginosus var. *sesquimetralis* (Sodaville milk-vetch)	SE	197909XX			
Astragalus magdalenae var. *peirsonii* (Peirson's milk-vetch)	SE	197911XX	FT	19981006	
Astragalus monoensis (Mono milk-vetch)	SR	198207XX			
Astragalus pycnostachyus var. *lanosissimus* (Ventura Marsh milk-vetch)	SE	200004XX	FE	20010521	
Astragalus tener var. *titi* (coastal dunes milk-vetch)	SE	198202XX	FE	19980812	
Astragalus traskiae (Trask's milk-vetch)	SR	197911XX			
Astragalus tricarinatus (triple-ribbed milk-vetch)			FE	19981006	
Atriplex coronata var. *notatior* (San Jacinto Valley crownscale)			FE	19981013	
Atriplex tularensis (Bakersfield smallscale)	SE	198701XX			
Baccharis vanessae (Encinitas baccharis)	SE	198701XX	FT	19961007	
Bensoniella oregona (bensoniella)	SR	198207XX			
Berberis nevinii (Nevin's barberry)	SE	198701XX	FE	19981013	
Berberis pinnata ssp. insularis (island barberry)	SE	197911XX	FE	19970731	
Blennosperma bakeri (Sonoma sunshine)	SE	199202XX	FE	19911202	

Taxon[a]	State Status	State List Date[b]	Federal Status	Federal List Date[b]	CDFW Notes
Blennosperma nanum var. *robustum* (Point Reyes blennosperma)	SR	197811XX			
Bloomeria humilis (dwarf goldenstar)	SR	197811XX			
Boechera hoffmannii (Hoffmann's rockcress)			FE	19970731	Scientific name at time of listing: *Arabis hoffmannii*
Brodiaea filifolia (thread-leaved brodiaea)	SE	198201XX	FT	19981013	
Brodiaea insignis (Kaweah brodiaea)	SE	197911XX			
Brodiaea pallida (Chinese Camp brodiaea)	SE	197811XX	FT	19980914	
Brodiaea rosea (Indian Valley brodiaea)	SE	197909XX			Scientific name at time of listing: *Brodiaea coronaria* ssp. *rosea*
Calamagrostis foliosa (leafy reed grass)	SR	197911XX			
Calochortus dunnii (Dunn's mariposa-lily)	SR	197911XX			
Calochortus persistens (Siskiyou mariposa-lily)	SR	198207XX			FC on 20040504; removed from FC list on 20151008.
Calochortus tiburonensis (Tiburon mariposa-lily)	ST	198705XX	FT	19950203	
Calyptridium pulchellum (Mariposa pussypaws)			FT	19980914	
Calystegia stebbinsii (Stebbins' morning-glory)	SE	198108XX	FE	19961018	
Camissonia benitensis (San Benito evening-primrose)			FT	19850212	
Carex albida (white sedge)	SE	197911XX	FE	19971022	Current taxonomic treatment considers *Carex albida* as a synonym of *Carex lemmonii* , a common taxon. No longer tracked by CNDDB.
Carex tompkinsii (Tompkins' sedge)	SR	197911XX			
Carpenteria californica (tree-anemone)	ST	199001XX			
Castilleja affinis var. *neglecta* (Tiburon paintbrush)	ST	199001XX	FE	19950203	Scientific name at time of listing: *Castilleja affinis* ssp. *neglecta*
Castilleja campestris var. *succulenta* (succulent owl's-clover)	SE	197909XX	FT	19970326	Scientific name at time of listing: *Castilleja campestris* ssp. *succulenta*
Castilleja cinerea (ash-gray paintbrush)			FT	19980914	
Castilleja gleasoni (Mt. Gleason paintbrush)	SR	198207XX			
Castilleja grisea (San Clemente Island paintbrush)	SE	198204XX	FT	20130726	
Castilleja mollis (soft-leaved paintbrush)			FE	19970731	
Castilleja uliginosa (Pitkin Marsh paintbrush)	SE	197811XX			
Caulanthus californicus (California jewelflower)	SE	198701XX	FE	19900719	
Caulanthus stenocarpus (slender-pod jewel-flower)	Delisted	200804XX			Current taxonomic treatment considers *Caulanthus stenocarpus* as a synonym of *Caulanthus heterophyllus* , a common taxon
Ceanothus ferrisiae (Coyote ceanothus)			FE	19950203	Scientific name at time of listing: *Ceanothus ferrisae*
Ceanothus hearstiorum (Hearsts' ceanothus)	SR	198108XX			
Ceanothus maritimus (maritime ceanothus)	SR	197811XX			
Ceanothus masonii (Mason's ceanothus)	SR	197811XX			
Ceanothus ophiochilus (Vail Lake ceanothus)	SE	199401XX	FT	19981013	
Ceanothus roderickii (Pine Hill ceanothus)	SR	198207XX	FE	19961018	
Cercocarpus traskiae (Catalina Island mountain-mahogany)	SE	198204XX	FE	19970808	
Chamaesyce hooveri (Hoover's spurge)			FT	19970326	
Chlorogalum purpureum var. *purpureum* (Santa Lucia purple amole)			FT	20000320	The U.S. Fish & Wildlife Service listed the entire species, *Chlorogalum purpureum*
Chlorogalum purpureum var. *reductum* (Camatta Canyon amole)	SR	197811XX	FT	20000320	The U.S. Fish & Wildlife Service listed the entire species, *Chlorogalum purpureum*
Chloropyron maritimum ssp. *maritimum* (salt marsh bird's-beak)	SE	197907XX	FE	19781029	Scientific name at time of listing: *Cordylanthus maritimus* ssp. *maritimus*
Chloropyron molle ssp. *molle* (soft salty bird's-beak)	SR	197907XX	FE	19971120	Scientific name at time of listing: *Cordylanthus mollis* ssp. *mollis*
Chloropyron palmatum (palmate salty bird's-beak)	SE	198405XX	FE	19860701	Scientific name at time of listing: *Cordylanthus palmatus*
Chorizanthe howellii (Howell's spineflower)	ST	198701XX	FE	19920622	
Chorizanthe orcuttiana (Orcutt's spineflower)	SE	197911XX	FE	19961007	
Chorizanthe parryi var. *fernandina* (San Fernando Valley spineflower)	SE	200108XX	FC	20040504	
Chorizanthe pungens var. *hartwegiana* (Ben Lomond spineflower)			FE	19940204	
Chorizanthe pungens var. *pungens* (Monterey spineflower)			FT	19940204	
Chorizanthe robusta var. *hartwegii* (Scotts Valley spineflower)			FE	19940204	
Chorizanthe robusta var. *robusta* (robust spineflower)			FE	19940204	
Chorizanthe valida (Sonoma spineflower)	SE	199001XX	FE	19920622	
Cirsium ciliolatum (Ashland thistle)	SE	198209XX			

Taxon[a]	State Status	State List Date[b]	Federal Status	Federal List Date[b]	CDFW Notes
Cirsium fontinale var. *fontinale* (Crystal Springs fountain thistle)	SE	197907XX	FE	19950203	
Cirsium fontinale var. *obispoense* (San Luis Obispo fountain thistle)	SE	199306XX	FE	19941215	
Cirsium hydrophilum var. *hydrophilum* (Suisun thistle)			FE	19971120	
Cirsium rhothophilum (surf thistle)	ST	199002XX			
Cirsium scariosum var. *loncholepis* (La Graciosa thistle)	ST	199002XX	FE	20000320	Scientific name at time of listing: *Cirsium loncholepis*
Clarkia franciscana (Presidio clarkia)	SE	197811XX	FE	19950203	
Clarkia imbricata (Vine Hill clarkia)	SE	197811XX	FE	19971022	
Clarkia lingulata (Merced clarkia)	SE	198701XX			
Clarkia speciosa ssp. *immaculata* (Pismo clarkia)	SR	197811XX	FE	19941215	
Clarkia springvillensis (Springville clarkia)	SE	197909XX	FT	19980914	
Cordylanthus nidularius (Mt. Diablo bird's-beak)	SR	197811XX			
Cordylanthus rigidus ssp. *littoralis* (seaside bird's-beak)	SE	198201XX			
Cordylanthus tenuis ssp. *capillaris* (Pennell's bird's-beak)	SR	197811XX	FE	19950203	
Croton wigginsii (Wiggins' croton)	SR	198201XX			
Cryptantha roosiorum (bristlecone cryptantha)	SR	198207XX			
Dedeckera eurekensis (July gold)	SR	197811XX			
Deinandra arida (Red Rock tarplant)	SR	198207XX			Scientific name at time of listing: *Hemizonia arida*
Deinandra bacigalupii (Livermore tarplant)	SC	20150409			State Candidate for Endangered status listing
Deinandra conjugens (Otay tarplant)	SE	197911XX	FT	19981013	Scientific name at time of listing: *Hemizonia conjugens*
Deinandra increscens ssp. *villosa* (Gaviota tarplant)	SE	199001XX	FE	20000320	Scientific name at time of listing: *Hemizonia increscens* ssp. *villosa*
Deinandra minthornii (Santa Susana tarplant)	SR	197811XX			Scientific name at time of listing: *Hemizonia minthornii*
Deinandra mohavensis (Mojave tarplant)	SE	198108XX			Scientific name at time of listing: *Hemizonia mohavensis*
Delphinium bakeri (Baker's larkspur)	SE	200704XX	FE	20000126	
Delphinium hesperium ssp. *cuyamacae* (Cuyamaca larkspur)	SR	198207XX			
Delphinium luteum (golden larkspur)	SR	197909XX	FE	20000126	
Delphinium variegatum ssp. *kinkiense* (San Clemente Island larkspur)	SE	197909XX	FE	19770912	
Dieteria asteroides var. *lagunensis* (Mount Laguna aster)	SR	197909XX			Scientific name at time of listing: *Machaeranthera asteroides* var. *lagunensis*
Diplacus vandenbergensis (Vandenberg monkeyflower)			FE	20140925	Scientific name when proposed as a Federal Candidate: *Mimulus fremontii* var. *vandenbergensis*
Dithyrea maritima (beach spectaclepod)	ST	199002XX			
Dodecahema leptoceras (slender-horned spineflower)	SE	198201XX	FE	19870928	
Downingia concolor var. *brevior* (Cuyamaca Lake downingia)	SE	198202XX			
Dudleya abramsii ssp. *setchellii* (Santa Clara Valley dudleya)			FE	19950203	Scientific name at time of listing: *Dudleya setchellii*
Dudleya brevifolia (short-leaved dudleya)	SE	198201XX			
Dudleya cymosa ssp. *agourensis* (Agoura Hills dudleya)			FT	19970129	The U.S. Fish & Wildlife Service listed the more encompassing *Dudleya cymosa* ssp. *ovatifolia* from which ssp. *agourensis* was split
Dudleya cymosa ssp. *marcescens* (marcescent dudleya)	SR	197811XX	FT	19970129	
Dudleya cymosa ssp. *ovatifolia* (Santa Monica dudleya)			FT	19970129	
Dudleya nesiotica (Santa Cruz Island dudleya)	SR	197911XX	FT	19970731	
Dudleya parva (Conejo dudleya)			FT	19970129	Scientific name at time of listing: *Dudleya abramsii* ssp. *parva*
Dudleya stolonifera (Laguna Beach dudleya)	ST	198701XX	FT	19981013	
Dudleya traskiae (Santa Barbara Island dudleya)	SE	197911XX	FE	19780527	
Dudleya verityi (Verity's dudleya)			FT	19970129	
Enceliopsis nudicaulis var. *corrugata* (Ash Meadows daisy)			FT	19850520	
Eremalche kernensis (Kern mallow)			FE	19900719	
Eremogone ursina (Big Bear Valley sandwort)			FT	19980914	Scientific name at time of listing: *Arenaria ursina*
Eriastrum densifolium ssp. *sanctorum* (Santa Ana River woollystar)	SE	198701XX	FE	19870928	
Eriastrum hooveri (Hoover's woolly-star)			Delisted	20031007	
Eriastrum tracyi (Tracy's eriastrum)	SR	198207XX			
Erigeron parishii (Parish's daisy)			FT	19940824	
Eriodictyon altissimum (Indian Knob mountainbalm)	SE	197907XX	FE	19941215	
Eriodictyon capitatum (Lompoc yerba santa)	SR	197909XX	FE	20000320	

Taxon[a]	State Status	State List Date[b]	Federal Status	Federal List Date[b]	CDFW Notes
Eriogonum alpinum (Trinity buckwheat)	SE	197907XX			
Eriogonum apricum var. *apricum* (Ione buckwheat)	SE	198108XX	FE	19990526	The U.S. Fish & Wildlife Service listed the entire species, *Eriogonum apricum*
Eriogonum apricum var. *prostratum* (Irish Hill buckwheat)	SE	198701XX	FE	19990526	The U.S. Fish & Wildlife Service listed the entire species, *Eriogonum apricum*
Eriogonum butterworthianum (Butterworth's buckwheat)	SR	197911XX			
Eriogonum crocatum (conejo buckwheat)	SR	197909XX			
Eriogonum giganteum var. *compactum* (Santa Barbara Island buckwheat)	SR	197911XX			
Eriogonum grande var. *timorum* (San Nicolas Island buckwheat)	SE	197911XX			Scientific name at time of listing: *Eriogonum grande* ssp. *timorum*
Eriogonum kelloggii (Kellogg's buckwheat)	SE	198204XX	FC	20040504	
Eriogonum kennedyi var. *austromontanum* (southern mountain buckwheat)			FT	19980914	
Eriogonum ovalifolium var. *vineum* (Cushenbury buckwheat)			FE	19940824	
Eriogonum thornei (Thorne's buckwheat)	SE	197909XX			Scientific name at time of listing: *Eriogonum ericifolium* var. *thornei*
Eriogonum twisselmannii (Twisselmann's buckwheat)	SR	198207XX			
Eriophyllum congdonii (Congdon's woolly sunflower)	SR	198207XX			
Eriophyllum latilobum (San Mateo woolly sunflower)	SE	199206XX	FE	19950203	
Eryngium aristulatum var. *parishii* (San Diego button-celery)	SE	197907XX	FE	19930803	
Eryngium constancei (Loch Lomond button-celery)	SE	198701XX	FE	19861223	
Eryngium racemosum (Delta button-celery)	SE	198108XX			
Erysimum capitatum var. *angustatum* (Contra Costa wallflower)	SE	197811XX	FE	19780527	
Erysimum menziesii (Menzies' wallflower)	SE	198409XX	FE	19920622	The U.S. Fish & Wildlife Service separately listed three subspecies as endangered; *E. menziesii* ssp. *eurekense* , *E. menziesii* ssp. *menziesii* , and *E. menziesii* ssp. *yadonii* . Current taxonomic treatment no longer recognizes subspecies within *E. menziesii*
Erysimum teretifolium (Santa Cruz wallflower)	SE	198108XX	FE	19940204	
Fremontodendron decumbens (Pine Hill flannelbush)	SR	197907XX	FE	19961018	Scientific name at time of listing: *Fremontodendron californicum* ssp. *decumbens*
Fremontodendron mexicanum (Mexican flannelbush)	SR	198207XX	FE	19981013	
Fritillaria gentneri (Gentner's fritillary)			FE	19991210	
Fritillaria roderickii (Roderick's fritillary)	SE	197911XX			
Fritillaria striata (striped adobe-lily)	ST	198701XX			
Galium angustifolium ssp. *borregoense* (Borrego bedstraw)	SR	197909XX			
Galium buxifolium (box bedstraw)	SR	197911XX	FE	19970731	
Galium californicum ssp. *sierrae* (El Dorado bedstraw)	SR	197911XX	FE	19961018	
Galium catalinense ssp. *acrispum* (San Clemente Island bedstraw)	SE	198204XX			
Gilia tenuiflora ssp. *arenaria* (Monterey gilia)	ST	198701XX	FE	19920622	
Gilia tenuiflora ssp. *hoffmannii* (Hoffmann's slender-flowered gilia)			FE	19970731	
Gratiola heterosepala (Boggs Lake hedge-hyssop)	SE	197811XX			
Grindelia fraxinipratensis (Ash Meadows gumplant)			FT	19850520	Scientific name at time of listing: *Grindelia fraxino-pratensis*
Hazardia orcuttii (Orcutt's hazardia)	ST	200208XX			FC on 20040504; removed from FC list on 20131122
Helianthemum greenei (island rush-rose)			FT	19970731	
Helianthus niveus ssp. *tephrodes* (Algodones Dunes sunflower)	SE	197911XX			
Hesperocyparis abramsiana var. *abramsiana* (Santa Cruz cypress)	SE	197911XX	FT	20160219	The U.S. Fish & Wildlife Service listed the entire species, *Cupressus abramsiana* as FE on 19870108; reclassified as FT on 20160219.
Hesperocyparis abramsiana var. *butanoensis* (Butano Ridge cypress)	SE	197911XX	FT	20160219	The U.S. Fish & Wildlife Service listed the entire species, *Cupressus abramsiana* as FE on 19870108; reclassified as FT on 20160219.
Hesperocyparis goveniana (Gowen cypress)			FT	19980812	Scientific name at time of listing: *Cupressus goveniana* ssp. *goveniana*
Hesperolinon congestum (Marin western flax)	ST	199206XX	FT	19950203	
Hesperolinon didymocarpum (Lake County western flax)	SE	198108XX			
Holmgrenanthe petrophila (rock lady)	SR	198207XX			Scientific name at time of listing: *Maurandya petrophila*
Holocarpha macradenia (Santa Cruz tarplant)	SE	197909XX	FT	20000320	
Howellia aquatilis (water howellia)			FT	19940714	
Ivesia callida (Tahquitz ivesia)	SR	198207XX			

Taxon[a]	State Status	State List Date[b]	Federal Status	Federal List Date[b]	CDFW Notes
Ivesia webberi (Webber's ivesia)			FT	20140602	
Lasthenia burkei (Burke's goldfields)	SE	197909XX	FE	19911202	
Lasthenia conjugens (Contra Costa goldfields)			FE	19970618	
Layia carnosa (beach layia)	SE	199001XX	FE	19920622	
Lessingia germanorum (San Francisco lessingia)	SE	199001XX	FE	19970619	
Lewisia congdonii (Congdon's lewisia)	SR	198207XX			
Lilaeopsis masonii (Mason's lilaeopsis)	SR	197911XX			
Lilium occidentale (western lily)	SE	198201XX	FE	19940817	
Lilium pardalinum ssp. *pitkinense* (Pitkin Marsh lily)	SE	197811XX	FE	19971022	
Limnanthes alba ssp. *parishii* (Parish's meadowfoam)	SE	197907XX			Scientific name at time of listing: *Limnanthes gracilis* var. *parishii*
Limnanthes bakeri (Baker's meadowfoam)	SR	197811XX			
Limnanthes douglasii ssp. *sulphurea* (Point Reyes meadowfoam)	SE	198204XX			
Limnanthes floccosa ssp. *californica* (Butte County meadowfoam)	SE	198202XX	FE	19920608	
Limnanthes vinculans (Sebastopol meadowfoam)	SE	197911XX	FE	19911202	
Lithophragma maximum (San Clemente Island woodland star)	SE	198202XX	FE	19970808	
Lupinus citrinus var. *deflexus* (Mariposa lupine)	ST	199001XX			
Lupinus milo-bakeri (Milo Baker's lupine)	ST	198701XX			
Lupinus nipomensis (Nipomo Mesa lupine)	SE	198701XX	FE	20000320	
Lupinus padre-crowleyi (Father Crowley's lupine)	SR	198108XX			
Lupinus tidestromii (Tidestrom's lupine)	SE	198701XX	FE	19920622	Federally listed at the species level; state listed as *Lupinus tidestromii* var. *tidestromii* (plants of *L. tidestromii* from Monterey County only)
Mahonia sonnei (Truckee barberry)	Delisted	200804XX	Delisted	20031001	Current taxonomic treatment considers *Berberis sonnei* as a form of the common *Berberis aquifolium* var. *repens* , and not a separate taxon
Malacothamnus clementinus (San Clemente Island bush-mallow)	SE	198202XX	FE	19770912	
Malacothamnus fasciculatus var. *nesioticus* (Santa Cruz Island bush-mallow)	SE	197911XX	FE	19970731	
Malacothrix indecora (Santa Cruz Island malacothrix)			FE	19970731	
Malacothrix squalida (island malacothrix)			FE	19970731	
Monardella viminea (willowy monardella)	SE	197911XX	FE	19981013	Scientific name at time of listing: *Monardella linoides* ssp. *viminea*
Monolopia congdonii (San Joaquin woollythreads)			FE	19900719	
Nasturtium gambelii (Gambel's water cress)	ST	199001XX	FE	19930803	Scientific name at time of listing: *Rorippa gambellii*
Navarretia fossalis (spreading navarretia)			FT	19981013	
Navarretia leucocephala ssp. *pauciflora* (few-flowered navarretia)	ST	199001XX	FE	19970618	
Navarretia leucocephala ssp. *plieantha* (many-flowered navarretia)	SE	197911XX	FE	19970618	
Nemacladus twisselmannii (Twisselmann's nemacladus)	SR	198207XX			
Neostapfia colusana (Colusa grass)	SE	197911XX	FT	19970326	
Nitrophila mohavensis (Amargosa nitrophila)	SE	197911XX	FE	19850520	
Noccaea fendleri ssp. *californica* (Kneeland Prairie pennycress)			FE	20000209	Scientific name at time of listing: *Thlapsi californicum*
Nolina interrata (Dehesa nolina)	SE	197911XX			
Oenothera californica ssp. *eurekensis* (Eureka Dunes evening-primrose)	SR	197811XX	FE	19780527	Scientific name at time of listing: *Oenothera avita* ssp. *eurekensis*
Oenothera deltoides ssp. *howellii* (Antioch Dunes evening-primrose)	SE	197811XX	FE	19780527	
Opuntia basilaris var. *treleasei* (Bakersfield cactus)	SE	199001XX	FE	19900719	Scientific name at time of listing: *Opuntia treleasei*
Orcuttia californica (California Orcutt grass)	SE	197909XX	FE	19930803	
Orcuttia inaequalis (San Joaquin Valley Orcutt grass)	SE	197909XX	FT	19970326	
Orcuttia pilosa (hairy Orcutt grass)	SE	197909XX	FE	19970326	
Orcuttia tenuis (slender Orcutt grass)	SE	197909XX	FT	19970326	
Orcuttia viscida (Sacramento Orcutt grass)	SE	197907XX	FE	19970326	
Ornithostaphylos oppositifolia (Baja California birdbush)	SE	200105XX			
Packera ganderi (Gander's ragwort)	SR	198207XX			Scientific name at time of listing: *Senecio ganderi*
Packera layneae (Layne's ragwort)	SR	197911XX	FT	19961018	Scientific name at time of listing: *Senecio layneae*
Panicum acuminatum var. *thermale* (Geysers panicum)	SE	197809XX			Scientific name at time of listing: *Dichanthelium lanuginosum* var. *thermale*
Pedicularis dudleyi (Dudley's lousewort)	SR	197909XX			
Pentachaeta bellidiflora (white-rayed pentachaeta)	SE	199206XX	FE	19950203	
Pentachaeta lyonii (Lyon's pentachaeta)	SE	199001XX	FE	19970129	

Taxon[a]	State Status	State List Date[b]	Federal Status	Federal List Date[b]	CDFW Notes
Phacelia insularis var. *insularis* (northern Channel Islands phacelia)			FE	19970731	
Phacelia stellaris (Brand's star phacelia)					FC on 20040504; removed from FC list on 20131122
Phlox hirsuta (Yreka phlox)	SE	198701XX	FE	20000203	
Physaria kingii ssp. *bernardina* (San Bernardino Mountains bladderpod)			FE	19940824	Scientific name at time of listing: *Lesquerella kingii* ssp. *bernardina*
Pinus albicaulis (whitebark pine)			FC	20100720	Not tracked by CNDDB.
Piperia yadonii (Yadon's rein orchid)			FE	19980812	
Plagiobothrys diffusus (San Francisco popcornflower)	SE	197909XX			
Plagiobothrys strictus (Calistoga popcornflower)	ST	199001XX	FE	19971022	
Pleuropogon hooverianus (North Coast semaphore grass)	ST	200208XX			
Poa atropurpurea (San Bernardino blue grass)			FE	19980914	
Poa napensis (Napa blue grass)	SE	197907XX	FE	19971022	
Pogogyne abramsii (San Diego mesa mint)	SE	197907XX	FE	19781029	
Pogogyne clareana (Santa Lucia mint)	SE	197911XX			
Pogogyne nudiuscula (Otay Mesa mint)	SE	198701XX	FE	19930803	
Polygonum hickmanii (Scotts Valley polygonum)	SE	200410XX	FE	20030408	
Potentilla basaltica (Black Rock potentilla)					FC on 20040504; removed from FC list on 20130802
Potentilla hickmanii (Hickman's cinquefoil)	SE	197909XX	FE	19980812	
Pseudobahia bahiifolia (Hartweg's golden sunburst)	SE	198108XX	FE	19970206	
Pseudobahia peirsonii (San Joaquin adobe sunburst)	SE	198701XX	FT	19970206	
Rorippa subumbellata (Tahoe yellow cress)	SE	198204XX			FC on 20040504; removed from FC list on 20151008.
Rosa minutifolia (small-leaved rose)	SE	198910XX			
Sanicula maritima (adobe sanicle)	SR	198108XX			
Sanicula saxatilis (rock sanicle)	SR	198207XX			
Sedella leiocarpa (Lake County stonecrop)	SE	199001XX	FE	19970618	Scientific name at time of listing: *Parvisedum leiocarpum*
Sedum laxum ssp. *eastwoodiae* (Red Mountain stonecrop)			FC	20040504	Scientific name at time of listing: *Sedum eastwoodiae*
Sibara filifolia (Santa Cruz Island winged-rockcress)			FE	19970808	
Sidalcea covillei (Owens Valley checkerbloom)	SE	197907XX			
Sidalcea hickmanii ssp. *anomala* (Cuesta Pass checkerbloom)	SR	197911XX			
Sidalcea hickmanii ssp. *parishii* (Parish's checkerbloom)	SR	197911XX			
Sidalcea keckii (Keck's checkerbloom)			FE	20000216	
Sidalcea oregana ssp. *valida* (Kenwood Marsh checkerbloom)	SE	198201XX	FE	19971022	
Sidalcea pedata (bird-foot checkerbloom)	SE	198201XX	FE	19840831	
Sidalcea stipularis (Scadden Flat checkerbloom)	SE	198201XX			
Silene campanulata ssp. *campanulata* (Red Mountain catchfly)	SE	198204XX			
Streptanthus albidus ssp. *albidus* (Metcalf Canyon jewelflower)			FE	19950203	
Streptanthus glandulosus ssp. *niger* (Tiburon jewelflower)	SE	199002XX	FE	19950203	Scientific name at time of listing: *Streptanthus niger*
Suaeda californica (California seablite)			FE	19941215	
Swallenia alexandrae (Eureka Valley dune grass)	SR	198108XX	FE	19780527	
Taraxacum californicum (California dandelion)			FE	19980914	
Thelypodium stenopetalum (slender-petaled thelypodium)	SE	198202XX	FE	19840831	
Thermopsis macrophylla (Santa Ynez false lupine)	SR	198108XX			Scientific name at time of listing: *Thermopsis macrophylla* var. *agnina*
Thysanocarpus conchuliferus (Santa Cruz Island fringepod)			FE	19970731	
Trichostema austromontanum ssp. *compactum* (Hidden Lake bluecurls)			FT	19980914	
Trifolium amoenum (showy rancheria clover)			FE	19971022	
Trifolium polyodon (Pacific Grove clover)	SR	197909XX			
Trifolium trichocalyx (Monterey clover)	SE	197911XX	FE	19980812	
Tuctoria greenei (Greene's tuctoria)	SR	197909XX	FE	19970326	
Tuctoria mucronata (Crampton's tuctoria or Solano grass)	SE	197907XX	FE	19780929	
Verbena californica (Red Hills vervain)	ST	199408XX	FT	19980914	
Verbesina dissita (big-leaved crownbeard)	ST	199001XX	FT	19961007	

Footnotes:
[a] Plant species that were once on a list but have since been removed are in gray text
[b] All dates are in the format "YYYYMMDD"

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State of California
The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Biogeographic Data Branch
California Natural Diversity Database

STATE & FEDERALLY LISTED ENDANGERED & THREATENED ANIMALS OF CALIFORNIA

July 2016

This is a list of animals found within California or off the coast of the State that have been classified as Endangered or Threatened by the California Fish & Game Commission (state list) or by the U.S. Secretary of the Interior or the U.S. Secretary of Commerce (federal list). The federal agencies responsible for listing are the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS).

The official California listing of Endangered and Threatened animals is contained in the California Code of Regulations, Title 14, Section 670.5. The official federal listing of Endangered and Threatened animals is published in the Federal Register, 50 CFR 17.11. The California Endangered Species Act of 1970 created the categories of "Endangered" and "Rare." The California Endangered Species Act of 1984 created the categories of "Endangered" and "Threatened." On January 1, 1985, all animal species designated as "Rare" were reclassified as "Threatened."

Also included on this list are animal "Candidates" for state listing and animals "Proposed" for federal listing; federal "Candidates" are currently not included. A state Candidate species is one that the Fish and Game Commission (FGC) has formally declared a candidate species. A federal Proposed species is one that has had a published proposed rule to list in the Federal Register.

Designation		Totals as of July 2016
State listed as Endangered	SE	48
State listed as Threatened	ST	38
Federally listed as Endangered	FE	92
Federally listed as Threatened	FT	40
State Candidate (T or E)	SC	5
State Candidate (Delisting)	SCD	0
Federally proposed (Endangered)	FPE	0
Federally proposed (Threatened)	FPT	1
Federally proposed (Delisting)	FPD	5
Total number of candidate/proposed animals for listing		5
Number of animals State listed only		32
Number of animals Federally listed only		68
Number of animals listed under both State & Federal Acts		52
Total number of animals listed (excludes double counting DPSs and ESUs)		154

Common and scientific names are shown as they are in current usage, typically based on the NatureServe Natural Heritage Network, unless otherwise noted in a footnote. If current nomenclature differs from that in state and federal listing documents, the nomenclature at the time of listing is given in a footnote. Synonyms, name changes, and other clarifying points are also footnoted.

The "List Date" for **final** federal listing is the date the listing became effective. This is usually not the date of publication of the rule in the Federal Register; it is usually about 30 days after publication, but may be longer.

If an animal was previously listed and no longer has any listing status, the entry has been grayed out. If an animal was previously proposed or a candidate for listing, but the listing was not warranted or revoked, the record has been removed from the table.

For taxa that have more than one status entry, the **current status is in bold and underlined**.

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	State Listing			Federal Listing	
GASTROPODS					
Trinity bristle snail *Monadenia infumata setosa*[1]	ST	10-02-80			
Morro shoulderband (=banded dune) snail *Helminthoglypta walkeriana*				FE[2]	1-17-95
White abalone *Haliotis sorenseni*				FE[3] FE	11-16-05 6-28-01
Black abalone *Haliotis cracherodii*				FE[4] FE	4-13-11 2-13-09
CRUSTACEANS					
Riverside fairy shrimp *Streptocephalus woottoni*				FE	8-03-93
Conservancy fairy shrimp *Branchinecta conservatio*				FE	9-19-94
Longhorn fairy shrimp *Branchinecta longiantenna*				FE	9-19-94
Vernal pool fairy shrimp *Branchinecta lynchi*				FT	9-19-94
San Diego fairy shrimp *Branchinecta sandiegonensis*				FE	2-03-97
Vernal pool tadpole shrimp *Lepidurus packardi*				FE	9-19-94
Shasta crayfish *Pacifastacus fortis*	**SE** ST	2-26-88 10-02-80		FE	9-30-88
California freshwater shrimp *Syncaris pacifica*	SE	10-02-80		FE	10-31-88
INSECTS					
Zayante band-winged grasshopper *Trimerotropis infantilis*				FE	2-24-97
Mount Hermon June beetle *Polyphylla barbata*				FE	2-24-97
Casey's June beetle *Dinacoma caseyi*				FE	10-24-11
Delta green ground beetle *Elaphrus viridis*				FT	9-15-80

[1] Listed by the State of California as *Monadenia setosa*.
[2] The 2006 five year review should be consulted to better understand the status of this species.
[3] Listed by NMFS in 2001 and by USFWS in 2005.
[4] Listed by NMFS in 2009 and by USFWS in 2011.

	State Listing			Federal Listing	
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*				FT	9-15-80
Ohlone tiger beetle *Cicindela ohlone*				FE	10-03-01
Kern primrose sphinx moth *Euproserpinus euterpe*				FT	5-09-80
Mission blue butterfly *Plebejus icarioides missionensis*[5]				FE	6-08-76
Lotis blue butterfly *Plebejus anna lotis*[6]				FE	6-08-76
Palos Verdes blue butterfly *Glaucopsyche lygdamus palosverdesensis*				FE	8-01-80
El Segundo blue butterfly *Euphilotes battoides allyni*				FE	6-08-76
Smith's blue butterfly *Euphilotes enoptes smithi*[7]				FE	6-08-76
San Bruno elfin butterfly *Callophrys mossii bayensis*[8]				FE	6-08-76
Lange's metalmark butterfly *Apodemia mormo langei*				FE	6-08-76
Bay checkerspot butterfly *Euphydryas editha bayensis*				FT	10-19-87
Quino checkerspot butterfly *Euphydryas editha quino (=E. e. wrighti)*				FE	1-16-97
Carson wandering skipper *Pseudocopaeodes eunus obscurus*				FE	8-07-02
Laguna Mountains skipper *Pyrgus ruralis lagunae*				FE	1-16-97
Callippe silverspot butterfly *Speyeria callippe callippe*				FE	12-05-97
Behren's silverspot butterfly *Speyeria zerene behrensii*				FE	12-05-97
Oregon silverspot butterfly *Speyeria zerene hippolyta*				FT	10-15-80

[5] Synonymous with *Icaricia icarioides missionensis.*
[6] Synonymous with *Plebejus idas lotis* and *Lycaeides argyrognomon lotis.*
[7] Synonymous with *Philotes enoptes smithi* and *Shijimiaeoides enoptes smithi*.
[8] Synonymous with *Incisalia fotis bayensis* and *Callophrys fotis bayensis*.

Myrtle's silverspot butterfly[9] *Speyeria zerene myrtleae*				FE	6-22-92
Delhi Sands flower-loving fly *Rhaphiomidas terminatus abdominalis*				FE	9-23-93
FISHES					
Green sturgeon - southern DPS *Acipenser medirostris*				FT[10]	6-06-06
Mohave tui chub *Siphateles bicolor mohavensis*[11]	SE	6-27-71		FE	10-13-70
Owens tui chub *Siphateles bicolor snyderi*[12]	SE	1-10-74		FE	9-04-85
Thicktail chub (**Extinct**) *Gila crassicauda*	**Delisted** SE	10-02-80 1-10-74			
Bonytail[13] *Gila elegans*	**SE** ST	1-10-74 6-27-71		FE	5-23-80
Clear Lake hitch *Lavinia exilicauda chi*	ST	12-15-15[14]			
Colorado pikeminnow *Ptychocheilus lucius*	SE	6-27-71		FE	3-11-67
Modoc sucker *Catostomus microps*	**SE** ST	10-02-80 1-10-74		Delisted **FE**	1-07-2016 7-11-85
Santa Ana sucker *Catostomus santaanae*				FT[15]	5-12-00
Shortnose sucker *Chasmistes brevirostris*	**SE** ST	1-10-74 6-27-71		FE	8-17-88
Lost River sucker *Deltistes luxatus*	**SE** ST	1-10-74 6-27-67		FE	8-17-88
Razorback sucker *Xyrauchen texanus*	**SE** ST	1-10-74 6-27-71		FE	11-22-91
Delta smelt *Hypomesus transpacificus*	**SE** ST	1-20-10 12-09-93		FT[16]	3-05-93
Longfin smelt *Spirinchus thaleichthys*	ST	4-05-09			

[9] The USFWS and others have not yet determined if the taxonomic expansion by Emmel and Emmel (1998) into *S. z. myrtleae* and *S. z. puntareyes* is warranted. *Speyereia zerene* along the coast of Marin and Sonoma counties are Federally Endangered under the subspecies concept in the 1992 listing.
[10] Includes all spawning populations south of the Eel River.
[11] Listed by the State of California as *Gila bicolor mohavensis.*
[12] Listed by the State of California as: *Gila bicolor snyderi.*
[13] Federal common name: bonytail chub.
[14] Notice of proposed change in regulations published 12-15-15. Effective date of regulation pending.
[15] Populations in the Los Angeles, San Gabriel, and Santa Ana River basins.
[16] Candidate for uplisting to Endangered by USFWS 5-15-13

Pacific eulachon - southern DPS *Thaleichthys pacificus*				FT FT	4-13-11[17] 5-17-10
Lahontan cutthroat trout *Oncorhynchus clarkii henshawi*[18]				**FT** FE	7-16-75 10-13-70
Paiute cutthroat trout *Oncorhynchus clarkii seleniris*				**FT** FE	7-16-75 3-11-67[19]
Coho salmon - south of Punta Gorda[20] *Oncorhynchus kisutch*	SE[21]	3-30-05		**FE**[22] FT	8-29-05 11-30-96
Coho salmon - Punta Gorda to the N. border of California[23] *Oncorhynchus kisutch*	ST[24]	3-30-05		FT[25] FT	8-29-05 6-05-97
Steelhead - southern California DPS[26] *Oncorhynchus mykiss*				FE[27] FE	2-06-06 10-17-97
Steelhead - south central California coast DPS[28] *Oncorhynchus mykiss*				FT[29] FT	2-06-06 10-17-97
Steelhead - central California coast DPS[30] *Oncorhynchus mykiss*				FT[31] FT	2-06-06 10-17-97
Steelhead - California Central Valley DPS[32] *Oncorhynchus mykiss*				FT[33] FT	2-06-06 5-18-98
Steelhead - northern California DPS[34] *Oncorhynchus mykiss*				FT[35] FT	2-06-06 8-07-00
Little Kern golden trout *Oncorhynchus mykiss whitei*[36]				FT	5-15-78

[17] Eulachon was listed as Threatened by the NMFS in 2010 and by the USFWS in 2011.
[18] According to the American Fisheries Society Special Publication 29 (2004), "clarkii" has two i's.
[19] All species with a list date of 03-11-67 were listed under the Endangered Species Preservation Act of 15 Oct 1966.
[20] The Federal listing is for central California coast Coho ESU and includes populations from Punta Gorda south to, and including, the San Lorenzo River as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system.
[21] The Coho south of San Francisco Bay were state listed in 1995. In Feb 2004 the Fish and Game Commission determined that the Coho from San Francisco to Punta Gorda should also be listed as Endangered. This change was finalized by the Office of Administrative Law on 30 Mar 2005.
[22] The NMFS completed a comprehensive status review in 2005 reaffirming the status.
[23] The Federal listing is for southern Oregon/northern California coast Coho ESU and includes populations in coastal streams between Cape Blanco, Oregon and Punta Gorda, California.
[24] The Fish and Game Commission determined that the Coho from Punta Gorda to the Oregon border should be listed as Threatened on 25 Feb 2004. This determination was finalized by the Office of Administrative Law on 30 Mar 2005.
[25] The NMFS completed a comprehensive status review in 2005 reaffirming the status.
[26] Coastal basins from the Santa Maria River (inclusive), south to the U.S.-Mexico Border.
[27] The NMFS completed a comprehensive status review in 2006 reaffirming the status.
[28] Coastal basins from the Pajaro River (inclusive) south to, but not including, the Santa Maria River.
[29] The NMFS completed a comprehensive status review in 2006 reaffirming the status.
[30] Coastal streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers; and tributary streams to Suisun Marsh including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), exclusive of the Sacramento-San Joaquin River Basin of the California Central Valley.
[31] The NMFS completed a comprehensive status review in 2006 reaffirming the status.
[32] The Sacramento and San Joaquin Rivers and their tributaries.
[33] The NMFS completed a comprehensive status review in 2006 reaffirming the status.
[34] Naturally spawned populations residing below impassable barriers in coastal basins from Redwood Creek in Humboldt County to, and including, the Gualala River in Mendocino County.
[35] The NMFS completed a comprehensive status review in 2006 reaffirming the status.
[36] Originally listed as *Salmo aguabonita whitei*. The genus *Salmo* was reclassified as *Oncorhynchus* changing the name to *Oncorhynchus aguabonita whitei*. However, recent studies indicate this is a subspecies of rainbow trout, therefore *Oncorhynchus mykiss whitei*.

Chinook salmon - winter-run[37] *Oncorhynchus tshawytscha*	SE	9-22-89		FE[38] FE FE	8-29-05 2-03-94 11-30-90
Chinook salmon - California coastal ESU[39] *Oncorhynchus tshawytscha*				FT[40] FT	8-29-05 11-15-99
Chinook salmon - spring-run[41] *Oncorhynchus tshawytscha*	ST	2-05-99		FT[42] FT	8-29-05 11-15-99
Bull trout[43] *Salvelinus confluentus*	SE	10-02-80		FT	12-01-99
Desert pupfish *Cyprinodon macularius*	SE	10-02-80		FE	4-30-86
Tecopa pupfish (**Extinct)** *Cyprinodon nevadensis calidae*	**Delisted** SE	1987 6-27-71		**Delisted** FE	2-16-82 10-13-70
Owens pupfish *Cyprinodon radiosus*	SE	6-27-71		FE	3-11-67
Cottonball Marsh pupfish *Cyprinodon salinus milleri*	ST	1-10-74			
Unarmored threespine stickleback *Gasterosteus aculeatus williamsoni*	SE	6-27-71		FE	10-13-70
Rough sculpin *Cottus asperrimus*	ST	1-10-74			
Tidewater goby *Eucyclogobius newberryi*				FE[44]	3-07-94
AMPHIBIANS					
California tiger salamander[45] *Ambystoma californiense*	ST	8-19-10		(FE) (FT)	
California tiger salamander - central California DPS *Ambystoma californiense*	(ST)			FT[46]	9-03-04
California tiger salamander - Santa Barbara County DPS *Ambystoma californiense*	(ST)			FE[46]	9-15-00

[37] The federal designation is for Chinook salmon - Sacramento River winter-run ESU and described as winter-run populations in the Sacramento River and its tributaries in California.
[38] The NMFS completed a comprehensive status review in 2005 reaffirming the status.
[39] Rivers and streams south of the Klamath River to the Russian River.
[40] The NMFS completed a comprehensive status review in 2005 reaffirming the status.
[41] The State listing is for "Spring-run chinook salmon (*Oncorhynchus tshawytscha*) of the Sacramento River drainage." The Federal listing is for Central Valley spring-run Chinook ESU and includes populations of spring-run Chinook salmon in the Sacramento River and its tributaries including the Feather River.
[42] The NMFS completed a comprehensive status review in 2005 reaffirming the status.
[43] Considered to be extirpated in California.
[44] See Federal Register 79(49):14340-14362, 13 Mar 2014, for proposed down-listing determination.
[45] The State listing refers to the entire range of the species.
[46] In 2004 the California tiger salamander was listed as Threatened statewide. The Santa Barbara County and Sonoma County Distinct Vertebrate Population Segments (DPS), formerly listed as Endangered, were reclassified to Threatened. On 19 Aug 2005 U.S. District court vacated the down-listing of the Sonoma and Santa Barbara populations from Endangered to Threatened. Therefore, the Sonoma & Santa Barbara populations are once again listed as Endangered.

California tiger salamander - Sonoma County DPS *Ambystoma californiense*	(ST)			FE[46]	3-19-03
Santa Cruz long-toed salamander *Ambystoma macrodactylum croceum*	SE	6-27-71		FE	3-11-67
Siskiyou Mountains salamander[47] *Plethodon stormi*	ST[48]	6-27-71			
Scott Bar salamander *Plethodon asupak*	ST[49]	6-27-71			
Tehachapi slender salamander *Batrachoseps stebbinsi*	ST	6-27-71			
Kern Canyon slender salamander *Batrachoseps simatus*	ST	6-27-71			
Desert slender salamander *Batrachoseps major aridus*[50]	SE	6-27-71		FE	6-04-73
Shasta salamander *Hydromantes shastae*	ST	6-27-71			
Limestone salamander *Hydromantes brunus*	ST	6-27-71			
Black toad *Anaxyrus exsul*[51]	ST	6-27-71			
Arroyo toad *Anaxyrus californicus*[52]				FE	1-17-95
Yosemite toad *Anaxyrus canorus*				FT	6-30-14
California red-legged frog *Rana draytonii*[53]				FT	6-24-96
Oregon spotted frog *Rana pretiosa*				FT	9-29-14
Southern mountain yellow-legged frog[54] *Rana muscosa*	SE	4-01-13		(FE)	

[47] The common name is spelled incorrectly in Title 14 of the CCR as "Siskiyou mountain salamander."
[48] Was a State Candidate for Delisting on 30 Sep 2005. No action was taken by the FGC after the CDFW presented a Department report on 3 Nov 2006; SMS was tabled at the 3 May 2007 FGC meeting, and there was nothing to report regarding the Department's environmental documents at the 11 Oct 2007 meeting. Therefore, with respect to Fish & Game Code 2075, it is assumed that this is no longer a candidate for delisting.
[49] As recognized by the FGC, the Scott Bar salamander is currently protected under the CESA as a sub-population of the Siskiyou Mountains salamander (*Plethodon stormi*) (Calif. Regulatory Notice Register, No. 21-Z, p. 916, 25 May 2007).
[50] Listed by the State of California as *Batrachoseps aridus* and originally listed by the USFWS as *B. aridus*. USFWS 5-year review refers to *B. major aridus*.
[51] Listed by the State of California as *Bufo exsul.*
[52] At the time of listing, arroyo toad was known as *Bufo microscaphus californicus,* a subspecies of southwestern toad. In 2001, it was determined to be its own species, *Bufo californicus*. Since then, many species in the genus *Bufo* were changed to the genus *Anaxyrus*, and now arroyo toad is known as *Anaxyrus californicus*.
[53] Synonymous with *Rana aurora draytonii.*
[54] Though the scientific name *Rana muscosa* is not disputed, the State uses this common name, whereas the USFWS listing refers to two distinct population segments. This species is also known by the common name Sierra Madre yellow-legged frog (Vredenburg et al. 2007).

Mountain yellow-legged frog - southern California DPS[55] *Rana muscosa*	(SE)			FE	8-01-02
Mountain yellow-legged frog - northern California DPS[56] *Rana muscosa*	(SE)			FE	6-30-14
Sierra Nevada yellow-legged frog *Rana sierrae*	ST	4-01-13		FE	6-30-14
REPTILES					
Desert tortoise *Gopherus agassizii*	ST	8-03-89		FT	4-02-90
Green sea turtle[57] *Chelonia mydas*				**FT** FE	7-28-78 10-13-70
Loggerhead sea turtle - North Pacific DPS[58] *Caretta caretta*				**FE** FT	10-24-11 7-28-78
Olive (=Pacific) ridley sea turtle *Lepidochelys olivacea*				FT	7-28-78
Leatherback sea turtle *Dermochelys coriacea*				FE	6-02-70
Barefoot banded gecko[59] *Coleonyx switaki*	ST	10-02-80			
Coachella Valley fringe-toed lizard *Uma inornata*	SE	10-02-80		FT	10-27-80
Blunt-nosed leopard lizard *Gambelia silus*[60]	SE	6-27-71		FE	3-11-67
Flat-tailed horned lizard *Phrynosoma mcallii*	SC	2-12-2015			
Island night lizard (**Recovered**) *Xantusia riversiana*				**Delisted** **FT**	5-1-14 8-11-77
Southern rubber boa *Charina bottae umbratica*[61]	ST	6-27-71			
Alameda whipsnake *Masticophis lateralis euryxanthus*[62]	ST	6-27-71		FT	12-05-97
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	SE	6-27-71		FE	3-11-67

[55] San Gabriel, San Jacinto, and San Bernardino Mountains only.
[56] North of the Tehachapi Mountains from the Monarch Divide to portions of the Kern River drainage.
[57] Current nomenclature: green turtle.
[58] The 1978 listing was for the worldwide range of the species. The 24 Oct 2011 final rule is for the North Pacific DPS (north of the equator & south of 60 degrees north latitude).
[59] Current nomenclature: Barefoot gecko.
[60] Current taxonomy: *Gambelia sila*. Originally listed under the ESA as *Crotaphytus wislizenii silus*.
[61] Current taxonomy: *Charina umbratica.*
[62] Synonymous with *Coluber lateralis euryxanthus*.

Giant garter snake *Thamnophis gigas*[63]	ST	6-27-71		FT	11-19-93
BIRDS					
Short-tailed albatross *Phoebastria albatrus*[64]				FE FE	8-30-00[65] 6-02-70
California brown pelican[66] **(Recovered)** *Pelecanus occidentalis californicus*	**Delisted** SE	6-03-09 6-27-71		**Delisted** FE	12-17-09 2-20-08 10-13-70
Cackling (=Aleutian Canada) goose **(Recovered)** *Branta hutchinsii leucopareia* [67]				**Delisted** FT FE	3-20-01 1-11-91 3-11-67
California condor *Gymnogyps californianus*	SE	6-27-71		FE	3-11-67
Bald eagle *Haliaeetus leucocephalus*	**SE** (rev) SE	10-02-80 6-27-71		**Delisted**[68] FT FE (rev) FE	8-08-07 8-11-95 3-16-78 3-11-67
Swainson's hawk *Buteo swainsoni*	ST	4-17-83			
American peregrine falcon **(Recovered)** *Falco peregrinus anatum*	**Delisted** SE	11-04-09 6-27-71		**Delisted** FE	8-25-99 6-02-70
Arctic peregrine falcon **(Recovered)** *Falco peregrinus tundrius*				**Delisted** FT FE	10-05-94 4-19-84 6-02-70
California black rail *Laterallus jamaicensis coturniculus*	ST	6-27-71			
California clapper rail *Rallus longirostris obsoletus*	SE	6-27-71		FE	10-13-70
Light-footed clapper rail *Rallus longirostris levipes*	SE	6-27-71		FE	10-13-70
Yuma clapper rail *Rallus longirostris yumanensis*	**ST** SE	2-22-78 6-27-71		FE	3-11-67
Greater sandhill crane *Grus canadensis tabida*	ST	4-17-83			

[63] Listed by State of California as *Thamnophis couchi gigas*.
[64] Synonymous with *Diomedea albatrus.*
[65] Listed as Endangered in one of the original species lists, but "due to an inadvertent oversight" when the 1973 ESA repealed the 1969 Act, short-tailed albatross was effectively delisted. Proposed listing to fix this error in 1980, with final rule in 2000.
[66] Federal nomenclature: Brown pelican (*Pelecanus occidentalis*).
[67] At time of federal listing, known as *Branta canadensis leucopareia*.
[68] The Post-delisting Monitoring Plan will monitor the status of the bald eagle over a 20 year period with sampling events held once every 5 years.

Western snowy plover *Charadrius nivosus nivosus*[69]				FT[70]	4-05-93
California least tern *Sternula antillarum browni*[71]	SE	6-27-71		FE	6-02-70
Marbled murrelet *Brachyramphus marmoratus*	SE	3-12-92		FT	9-28-92
Scripps's murrelet (=Xantus's murrelet) *Synthliboramphus scrippsi*[72]	ST	12-22-04			
Guadalupe murrelet (=Xantus's murrelet) *Synthliboramphus hypoleucus*[73]	ST	12-22-04			
Western yellow-billed cuckoo[74] *Coccyzus americanus occidentalis*	**SE** ST	3-26-88 6-27-71		FT	11-3-2014
Elf owl *Micrathene whitneyi*	SE	10-02-80			
Northern spotted owl *Strix occidentalis caurina*	SC	12-11-13		FT	7-23-90
Great gray owl *Strix nebulosa*	SE	10-02-80			
Gila woodpecker *Melanerpes uropygialis*	SE	3-17-88			
Gilded (=Gilded northern) flicker *Colaptes chrysoides*[75]	SE	3-17-88			
Willow flycatcher *Empidonax traillii*	SE[76]	1-02-91			
Southwestern willow flycatcher *Empidonax traillii extimus*	(SE)			FE	3-29-95
Bank swallow *Riparia riparia*	ST	6-11-89			
Coastal California gnatcatcher *Polioptila californica californica*				FT	3-30-93
San Clemente loggerhead shrike *Lanius ludovicianus mearnsi*				FE	9-12-77
Arizona Bell's vireo *Vireo bellii arizonae*	SE	3-17-88			

[69] Synonymous with *Charadrius alexandrinus nivosus.*
[70] Federal status applies only to the Pacific coastal population.
[71] Listed by the State of California and federal government as *Sterna antillarum browni.*
[72] At the time of listing, this species was known as the Xantus's Murrelet (*Synthliboramphus hypoleucus,* with California breeding populations ascribed to *Synthliboramphus hypoleucus* subsp. *scrippsi*).
[73] At the time of listing, this species was known as the Xantus's Murrelet (*Synthliboramphus hypoleucus,* with breeding populations from Baja California ascribed to *Synthliboramphus hypoleucus* subsp. *hypoleucus*).
[74] Listing is for the western DPS of *Coccyzus americanus.*
[75] Listed by the State of California as *Colaptes auratus chrysoides*.
[76] State listing includes all subspecies.

Least Bell's vireo *Vireo bellii pusillus*	SE	10-02-80		FE	6-02-86
Inyo California towhee *Melozone crissalis eremophilus*[77]	SE	10-02-80		FPD FT	11-04-2013 9-02-87
San Clemente sage sparrow *Artemisiospiza belli clementeae*[78]				FT	9-12-77
Belding's savannah sparrow *Passerculus sandwichensis beldingi*[79]	SE	1-10-74			
Santa Barbara song sparrow **(Extinct)** *Melospiza melodia graminea*				**Delisted** FE	10-12-83 6-04-73
Tricolored blackbird *Agelaius tricolor*	SC	12-10-15[80]			
MAMMALS					
Point Arena mountain beaver *Aplodontia rufa nigra*				FE	12-12-91
Nelson's (=San Joaquin antelope) antelope squirrel *Ammospermophilus nelsoni*	ST	10-02-80			
Mohave ground squirrel *Xerospermophilus mohavensis*[81]	ST	6-27-71			
Morro Bay kangaroo rat *Dipodomys heermanni morroensis*	SE	6-27-71		FE	10-13-70
Giant kangaroo rat *Dipodomys ingens*	SE	10-02-80		FE	1-05-87
San Bernardino kangaroo rat[82] *Dipodomys merriami parvus*				FE	9-24-98
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	SE	6-11-89		FE	8-08-88
Fresno kangaroo rat *Dipodomys nitratoides exilis*	**SE** ST	10-02-80 6-27-71		FE	3-01-85
Stephens' kangaroo rat *Dipodomys stephensi*	ST	6-27-71		FE	10-31-88
Pacific pocket mouse *Perognathus longimembris pacificus*				FE	9-26-94
Amargosa vole *Microtus californicus scirpensis*	SE	10-02-80		FE	12-17-84
Riparian woodrat *Neotoma fuscipes riparia*				FE	3-24-00

[77] Listed by the State of California and federal government as *Pipilo crissalis eremophilus.*
[78] Federal nomenclature at time of listing: *Amphispiza belli clementeae*.
[79] Listed by the State of California as *Passerculus sandwichensis beldingii*
[80] FGC voted to advance to candidacy December 10, 2015. Notice date pending.
[81] Listed by the State of California as *Spermophilus mohavensis.*
[82] Federal nomenclature: San Bernardino Merriam's kangaroo rat.

Salt-marsh harvest mouse *Reithrodontomys raviventris*	SE	6-27-71		FE	10-13-70
Riparian brush rabbit *Sylvilagus bachmani riparius*	SE	5-29-94		FE	3-24-00
Buena Vista Lake ornate shrew *Sorex ornatus relictus*				FE	4-05-02
Lesser long-nosed bat *Leptonycteris yerbabuenae*				FE	10-31-88
Townsend's big-eared bat *Corynorhinus townsendii*	SC	12-11-13			
Gray wolf *Canis lupus*	SE[83]	10-18-14		FPD **FE**	6-13-13 4-10-78
Island fox *Urocyon littoralis*	ST[84]	6-27-71		(FE)	
San Miguel Island Fox *Urocyon littoralis littoralis*	(ST)			FPD **FE**	2-16-16 4-05-04
Santa Catalina Island Fox *Urocyon littoralis catalinae*	(ST)			FPT **FE**	2-16-16 4-05-04
Santa Cruz Island Fox *Urocyon littoralis santacruzae*	(ST)			FPD **FE**	2-16-16 4-05-04
Santa Rosa Island Fox *Urocyon littoralis santarosae*	(ST)			FPD **FE**	2-16-16 4-05-04
San Joaquin kit fox *Vulpes macrotis mutica*	ST	6-27-71		FE	3-11-67
Sierra Nevada red fox *Vulpes vulpes necator*	ST	10-02-80			
Guadalupe fur seal *Arctocephalus townsendi*	ST	6-27-71		**FT** FE	1-15-86 3-11-67
Steller sea lion - Eastern DPS (**Recovered)** *Eumetopias jubatus*				**Delisted**[85] FT	12-4-13 6-4-97[86]
Southern sea otter *Enhydra lutris nereis*				FT	1-14-77
North American wolverine *Gulo gulo luscus*[87]	ST	6-27-71			

[83] Notice of Findings to list the gray wolf as endangered published by the FGC on October 18, 2014. Final effective date of regulation pending.
[84] State listing includes all 6 subspecies on all 6 islands. Federal listing is for only 4 subspecies on 4 islands.
[85] Delisted by NMFS.
[86] The NMFS reclassified Steller sea lion as two distinct population segments: western DPS west of 144 degrees longitude (Endangered), and eastern DPS east of 144 degrees longitude (Threatened).
[87] Listed by the State of California as *Gulo gulo*.

Humboldt (=Coastal) Marten *Martes caurina humboldtensis*	SC	2-16-2016			
Pacific fisher[88] Pekania [=*Martes*] *pennant* (Southern Sierra Nevada ESU)	ST[89]	4-20-2016			
Sierra Nevada (= California) bighorn sheep *Ovis canadensis sierrae*[90]	**SE** ST	8-27-99 6-27-71		FE	1-03-00
Peninsular bighorn sheep DPS[91] *Ovis canadensis nelsoni*	ST	6-27-71		FE	3-18-98
North Pacific right whale *Eubalaena japonica*[92]				FE[93] FE	4-07-08 6-02-70
Sei whale *Balaenoptera borealis*				FE	6-02-70
Blue whale *Balaenoptera musculus*				FE	6-02-70
Fin whale *Balaenoptera physalus*				FE	6-02-70
Humpback whale[94] *Megaptera novaeangliae*				FE	6-02-70
Gray whale - Eastern North Pacific DPS **(Recovered)** *Eschrichtius robustus*				**Delisted**[95] FE	6-16-94 6-02-70
Killer whale - Southern Resident DPS *Orcinus orca*				FE[96] FE	4-04-07 2-16-06
Sperm whale *Physeter macrocephalus*[97]				FE	6-02-70

ABBREVIATIONS

CCR: California Code of Regulations

CDFW: California Department of Fish and Wildlife (previously known as Department of Fish and Game (DFG))

CESA: California Endangered Species Act

DPS: Distinct population segment

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[88] California candidacy is under *Martes pennanti* and common name Pacific fisher, whereas the USFWS refers to *Martes pennant* and common name fisher. USFWS candidacy refers to the West Coast DPS in California, Oregon, and Washington.

[89] The FGC Notice of Findings stated that the Pacific fisher southern Sierra ESU (defined as California south of the Merced River) is determined to be listed as threatened. Final date of legislation pending. .

[90] Listed by the State of California as California bighorn sheep (*Ovis canadensis californiana*).

[91] Listed by the State of California as *Ovis canadensis cremnobates*. The subspecies *O.c. cremnobates* has been synonymized with *O.c. nelsoni*. The desert bighorn sheep in the Peninsular Ranges, the Peninsular bighorn sheep, is now considered to be a Distinct Population Segment (DPS) of *O.c. nelsoni*.

[92] The scientific name was clarified in the Federal Register Vol. 68, No. 69 April 10, 2003.

[93] The NMFS completed a status review of right whales in the N. Pacific and N. Atlantic Oceans and determined the previously Endangered northern right whale (*Eubalaena* spp.) as two separate Endangered species: North Pacific right whale (*E. japonica*) and North Atlantic right whale (*E. glacialis*).

[94] Also known as Hump-backed whale.

[95] The NMFS delisted the California population (Eastern North Pacific DPS), while keeping the Western North Pacific DPS as Endangered.

[96] The Southern Resident DPS of killer whale was listed as Endangered by the NMFS on Feb 16, 2006 and by the USFWS on Apr 4, 2007.

[97] Federal nomenclature at time of listing: *Physeter catodon*.

ESA: Endangered Species Act (Federal)

ESU: Evolutionarily significant unit

FGC: California Fish and Game Commission

NMFS: National Marine Fisheries Service

NOAA: National Oceanic and Atmospheric Administration

USFWS: United States Fish and Wildlife Service

ADDITIONAL RESOURCES

The California Fish and Game Commission publishes notices relating to changes to Title 14 of the California Code of Regulations: http://www.fgc.ca.gov/

Title 14 of the California Code of Regulations can be accessed through The Office of Administrative Law: http://www.oal.ca.gov/

The U.S. Fish and Wildlife Service is responsible for protecting Endangered and Threatened species, and conserving candidate species and at-risk species so that ESA listing is not necessary: http://www.fws.gov/Endangered/

NOAA's National Marine Fisheries Service, Office of Protected Resources is responsible for protecting marine mammals and Endangered and Threatened marine life: http://www.nmfs.noaa.gov/pr/

APPENDIX C

NOISE MEASUREMENT SURVEY REPORT

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NOISE MEASUREMENT SURVEY REPORT FOR MILITARY OCEAN TERMINAL CONCORD (MOTCO) CONTRA COSTA COUNTY, CALIFORNIA

SEPTEMEBER 2016

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1.0 OBJECTIVE AND PURPOSE

The objective of the noise measurement survey was to establish a baseline noise level for use in comparing alternatives in the Environmental Assessment (EA). Noise measurement equipment was installed at four locations on Military Ocean Terminal Concord (MOTCO) property during an operational event to continuously record for at least 72 hours. The primary focus of the noise measurement survey was to collect and calculate the day/night average noise levels (DNL) at each of the four specific locations, so that noise generated by the operational event near access control points (ACP) #1 and ACP #2 and the existing ambient noise near ACP #5 could be determined.

The findings from the noise measurement survey provide context of operational event and background noise levels in which any changes in modeled noise exposure resulting from the proposed ACP project can be considered. This report provides a general description of the measurement process, a description of the specific locations selected for noise measurements, a summary of the on-site observations made during the measurement period, and a quantitative analysis of the noise measurement results.

1.1 Background Information

Noise is generally described as unwanted sound, which can be based either on objective effects (i.e., hearing loss, damage to structures) or subjective judgments (e.g., community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB. The A-weighted decibel (dBA) is a measurement of sound pressure adjusted to conform to the frequency response of the human ear. The dBA metric is most commonly used for the measurement of environmental and industrial noise.

Noise levels occurring at night generally produce a greater annoyance than do the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA louder than the same level of intrusive noise during the day, at least in terms of its potential for causing community annoyance. This perception is largely because background environmental sound levels at night in most areas are also about 10 dBA lower than those during the day.

Long-term noise levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the DNL. DNL is the community noise metric recommended by the U.S. Environmental Protection Agency (USEPA) and has been adopted by most Federal agencies. A DNL of 65 dBA is the level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like construction.

As a general rule, noise generated by a stationary noise source, or “point source,” will decrease by approximately 6 dBA over hard surfaces and 9 dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 85 dBA at a reference distance of 50 feet over a hard surface, then the noise level would be 79 dBA at a distance of 100 feet from the noise source, 73 dBA at a distance of 200 feet, and so on.

2.0 PROCEDURES AND INSTRUMENTATION

Noise measurements were performed on August 2, 2016, through August 6, 2016. Measurements were conducted at four locations within the study area, for at least a continuous 3-day period. At the two locations nearest the MOTCO operational event, the noise survey was extended to include a fourth day of measurements in order to fully capture noise related to the event, which was delayed by a day.

Equipment used to measure noise levels included a high-quality microphone with a weather-resistant microphone screen, Type 1 01dB FUSION and 01dB DUO brand noise monitors, and a palmtop computer. The microphone was mounted on a tripod approximately 5 feet above the ground, and the noise monitors were connected to a standard marine battery.

The noise monitors were set to continuously measure instantaneous noise levels (dBA) throughout the measurement period. The computer recorded output from the monitor in 1-second intervals for the entire period of measurement. At each location, the noise monitors were calibrated with a certified acoustical calibrator (Brüel & Kjær Type 4231 sound level calibrator with calibration traceable to the National Institute of Standards and Technology [NIST]) immediately before measurement commenced and then again immediately after measurement ended.

During the noise measurement period, all locations were visited by the acoustical engineer at the beginning and end of each day. The acoustical engineer also periodically checked (from 8 a.m. to 5 p.m.) noise monitors each day to ensure that the systems were fully operational.

2.1 Noise Measurement Locations

The noise measurement survey focused on collecting a sample of noise data at four strategic locations that were directly related to the alternatives to be evaluated in the EA. Key components used in selecting the noise measurement locations included:

- Areas where operational event noise sources are located
- Areas that could potentially be subject to noise associated with the proposed project
- Noise-sensitive areas (e.g., nearby residences)

In particular, Location 1 was selected because of its close proximity to ACP #1, where trucks entering MOTCO are inspected. Location 2 was selected because of its close proximity to ACP #2, where trucks pass through on the way to the operational event. Location 3 was selected because of its close proximity to ACP #5 where the proposed new ACP would be located. Location 4 was selected because of its close proximity to the community of Bay Point adjacent to Port Chicago Highway, the approach route of trucks bound for the proposed ACP. Table 1 provides a summary of the noise

measurement locations, and Figure 1 provides a map of the locations within the study area.

Table 1. MOTCO Noise Measurement Location Summary

Location Number	Location	Latitude	Longitude	Dates Measured
1	Kinne Boulevard near the intersection with Port Chicago Highway	38.019842	-122.026119	August 2-6, 2016
2	Along Port Chicago Highway near the intersection with Taylor Boulevard	38.024261	-122.029519	August 2-6, 2016
3	Intersection of Port Chicago Highway and Nichols Road	38.041300	-121.988319	August 2-5, 2016
4	Along Port Chicago Highway adjacent to Bay Point residences	38.041300	-121.974575	August 2-5, 2016

Figure 1. Noise Measurment Locations

GSRC

August 2016

3.0 NOISE MEASUREMENT LOCATION DESCRIPTIONS AND NOISE LEVEL RESULTS

This section provides both qualitative descriptions and quantitative analysis for each measurement location. First, location descriptions are given based primarily on qualitative observations made by the acoustical engineer who was on-site performing checks at each location for a minimum of 6 hours during the noise measurement period. The data detailed for each location includes measurement period, location with regard to MOTCO, nearby land use, ambient noise patterns, non-operational event-related noise sources, and operational event related noise sources.

Second, the quantitative results are presented for each day of the noise measurement survey at each location. DNL for each day at each location was directly calculated using the collected 1-second dBA data. The maximum number of continuous 24-hour periods measured at each site was used, beginning with the first full hour of measurement for each phase.

3.1 Location 1

Measurement Period

Measurement began at 11:00 a.m. on Tuesday, August 2, 2016, and concluded at 5:00 p.m. on Saturday, August 6, 2016.

Location

Location 1 was at ACP #1, which is near the intersection of Kinne Boulevard and Port Chicago Highway and adjacent to MOTCO's Pass ID Office (Photograph 1).

Photograph 1. Noise measurement equipment at Location 1 near ACP #1.

Land Use

Land use is the vicinity of ACP #1 is developed for military use, and the nearest residence in the community of Clyde is approximately 758 feet north of ACP #1.

Ambient Noise

The primary sources of noise associated with Location 1 were truck traffic associated with the operational event, stevedore traffic, and general traffic entering and exiting MOTCO's Pass ID Office.

Non-MOTCO Noise Sources

Throughout the measurement period, cars and trucks would pass Location 1 as they traveled along Port Chicago Highway to and from the community of Clyde. Wildlife, especially birds, occasionally made noise.

Summary of Results

Table 2 provides a summary of the DNL calculated during the noise measurement survey at Location 1.

Table 2. DNL Values at Location 1

Noise Measurement Period	Measured DNL (dBA)
August 2-3, 2016	61.5
August 3-4, 2016	63.2
August 4-5, 2016	63.9
August 5-6, 2016	63.2
Overall Average DNL	63.0

Source: BridgeNet International Acoustics Division Analysis 2016

3.2 Location 2

Measurement Period

Measurement began at 11:00 a.m. on Tuesday, August 2, 2016, and concluded at 5:00 p.m. on Saturday, August 6, 2016.

Location

Location 2 was at ACP #2 along Port Chicago Highway near the intersection with Taylor Boulevard (Photograph 2). ACP #2 is the main entrance for all truck traffic entering MOTCO bound for the Tidal Area as part of the operational event.

Photograph 2. Noise measurement equipment at Location 2 near ACP #2.

Land Use

Land use is the vicinity of ACP #2 is developed for military use, and the nearest residence in the community of Clyde is approximately 168 feet east of ACP #2.

Ambient Noise

The primary sources of noise associated with Location 2 were truck traffic associated with the operational event, stevedore traffic, and general MOTCO truck traffic not associated with the event (i.e., delivery trucks) in and out of ACP #2.

Non-MOTCO Noise Sources

Throughout the measurement period, cars and trucks would pass Location 2 as they traveled along Port Chicago Highway to and from the community of Clyde. Wildlife, especially birds, occasionally made noise.

Summary of Results

Table 3 provides a summary of the DNL calculated during the noise measurement survey at Location 1.

Table 3. DNL Values at Location 2

Noise Measurement Period	Measured DNL (dBA)
August 2-3, 2016	61.8
August 3-4, 2016	63.0
August 4-5, 2016	60.8
August 5-6, 2016	59.7
Overall Average DNL	61.3

Source: BridgeNet International Acoustics Division 2016

3.3 Location 3

Measurement Period

Measurement began at 11:00 a.m. on Tuesday, August 2, 2016, and concluded at 3:00 p.m. on Friday, August 5, 2016.

Location

Location 3 was at ACP #5 at the intersection of Port Chicago Highway and Nichols Road (Photograph 3). ACP #5 is currently unmanned and remains closed during operational events.

Photograph 3. Noise measurement equipment at Location 3 near ACP #5.

Land Use

Land use is the vicinity of ACP #5 is developed for industrial and residential use. General Chemical is located approximately 735 feet north of ACP #5, and the closest residence is nearly 1.0 mile away.

Ambient Noise

During the noise measurement period, no military-related actions at or near Location 3 contributed to the ambient noise level. The primary sources of noise associated with Location 3 were car and truck traffic associated with Port Chicago Highway and truck traffic associated with the commercial industries, including General Chemical, along Port Chicago Highway.

Non-MOTCO Noise Sources

Throughout the measurement period, cars and trucks passed nearby Location 3 as they traveled along Port Chicago Highway. Truck traffic arriving and departing from the commercial industries nearby also contributed to the noise recorded at Location 3.

Noise from nearby freight railroad and Amtrak lines could also be heard. Wildlife, especially birds, occasionally made noise.

Summary of Results

Table 4 provides a summary of the DNL calculated during the noise measurement survey at Location 1.

Table 4. DNL Values at Location 3

Noise Measurement Period	Measured DNL (dBA)
August 2-3, 2016	73.0
August 3-4, 2016	70.4
August 4-5, 2016	64.5
Overall Average DNL	69.3

Source: BridgeNet International Acoustics Division 2016

3.4 Location 4

Measurement Period

Measurement began at 11:00 a.m. on Tuesday, August 2, 2016, and concluded at 3:00 p.m. on Friday, August 5, 2016.

Location

Location 4 was along Port Chicago Highway adjacent to residences in Bay Point (Photograph 4).

Photograph 4. Noise measurement equipment at Location 4 along the Port Chicago Highway approach to ACP #5.

Land Use

Land use in the vicinity is industrial and residential. General Chemical is located approximately 1.0 mile north of the noise measurement location, and the nearest residence in the community of Bay Point is approximately 56 feet west of Location 4. Rio Vista Elementary, Shore Acres Elementary, and Riverview Middle schools are all located within 1.0 mile of Location 4. A mosque, the Ahmadiyya Muslim Community East Bay, is also located within 1.0 mile of Location 4.

Ambient Noise

During the noise measurement period, no military-related actions at or near Location 4 contributed to the ambient noise level. The primary sources of noise associated with Location 4 were car and truck traffic associated with Port Chicago Highway and truck

traffic associated with the commercial industries, including General Chemical, along Port Chicago Highway.

Non-MOTCO Noise Sources

Throughout the measurement period, cars and trucks passed near Location 4 as they traveled along Port Chicago Highway. Truck traffic arriving and departing from the commercial industries nearby also contributed to the noise recorded at Location 4. To a lesser degree, noise from nearby freight railroad and Amtrak lines could also be heard. Wildlife, especially birds, occasionally made noise.

Summary of Results

Table 5 provides a summary of the DNL calculated during the noise measurement survey at Location 1.

Table 5. DNL Values at Location 4

Noise Measurement Period	Measured DNL (dBA)
August 2-3, 2016	69.7
August 3-4, 2016	67.0
August 4-5, 2016	69.6
Overall Average DNL	68.8

Source: BridgeNet International Acoustics Division 2016

4.0 SUMMARY

The noise measurement survey was conducted as part of the EA for the Construction and Operation of a Standard Design ACP at MOTCO. The survey was undertaken to provide sample of real field noise levels at four locations on MOTCO property. The primary focus of the survey was to collect and calculate a sampling of DNL at each location. In addition to DNL at each location, several other metrics were computed from the measured data as supplemental information. Although the noise levels presented in this report represent actual measured noise, it should be noted that they are a sampling of noise collected during relative small periods of time at a limited number of locations.

Table 6 provides a summary of the noise levels recorded during the measurement period for each location. The data for each location is presented in terms of the average DNL values.

Table 6. MOTCO Noise Measurement Survey Summary

Site	Measured DNL (dBA)
Location 1	63.0
Location 2	61.3
Location 3	69.3
Location 4	68.8

Source: BridgeNet International Acoustics Division 2016

Table 7 provides a summary of the sensitive noise receptors that must be considered when analyzing noise impacts in the EA. The table outlines sensitive noise receptors, the nearest source noise/noise measurement location, the distance from each receptor to the closest source noise/noise measurement location, maximum DNL noise levels at the source/measurement location, and the attenuated DNL noise level experienced at the actual receptor.

Table 7. Sensitive Noise Receptors near Noise Measurement Locations on MOTCO

Sensitive Noise Receptor	Nearest Source Noise/ Measurement Location	Distance from Source Noise/ Measurement Location (feet)	Source Noise Level (dBA)	Noise Level at Receptor (dBA)
Residential Home	Location 1	758	63.9	42.1
Residential Home	Location 2	168	63.0	47.7
Residential Homes	Location 4	56	69.7	65.7
Rio Vista Elementary School	Location 4	2,698	69.7	42.9
Shore Acres Elementary School	Location 4	2,071	69.7	44.0
Riverview Middle School	Location 4	3,104	69.7	42.3
Ahmadiyya Muslim Community East Bay	Location 4	2,722	69.7	42.8

Source: BridgeNet International Acoustics Division 2016

Under the National Environmental Policy Act (NEPA), a proposed project is compared with the baseline scenario, or the future, no-action scenario, also called the No Action Alternative, to determine whether noise impacts will occur. That is, the proposed project causes an impact when it changes the noise level compared to the No Action condition. Changes that are less than 3 dBA are considered negligible under NEPA because they are barely perceptible to the human ear.

Overall, the noise measurement survey collected at least 3 days of noise-level data at four locations on MOTCO property. Noise measurements recorded at Location 1 and Location 2 were used to determine noise levels associated with a typical MOTCO operational event. Noise measurements recorded at Location 3 and Location 4 were used to determine baseline noise levels, which represent the noise levels under the No Action Alternative. The DNL noise levels at Location 1 and Location 2 from the MOTCO operational event were as high as 63.9 dBA and 63.0 dBA, respectively. The baseline DNL noise levels at Location 3 and Location 4 were as high as 73.0 dBA and 69.7 dBA, respectively. These findings provide the worst-case noise levels for which any changes in modeled noise exposure resulting from the proposed ACP project can be considered.

In order to determine the noise impact associated with truck traffic traveling along Port Chicago highway arriving at and leaving from the proposed new gate at ACP #5, the increase in ambient noise levels was modeled. With implementation of the proposed ACP project, truck noise levels associated with operational events at Location 3 were modeled to be as high as 73.5 dBA, which is an increase from the baseline noise level of approximately 0.5 dBA. With the proposed project, truck noise levels associated with operational events at Location 4 were modeled to be as high as 70.7 dBA, which is an increase from the baseline noise level of approximately 1.0 dBA.

Therefore, with implementation of the proposed project, the change in noise due to the operational event-related truck traffic would be less than 3 dBA, and impacts on the community would be negligible. No additional noise measurement survey or noise mitigation actions would be required.

5.0 REFERENCES

BridgeNet International Acoustics Division. 2016. Noise Monitoring Survey, Military Ocean Terminal Concord (MOTCO), Concord, California. Report #2016-057. August 30, 2016.

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